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MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

CONFERENCE
PAPERS
AT
HARROGATE

See Pages 6 and 11

VOL. LXXIX No. 2042 [*Registered at the G.P.O. as a newspaper*] LONDON, MAY 17, 1958 PRICE NINEPENCE

CURRENT TOPICS

Looking for Passengers

CONSIDERABLE reference was made in our last issue to the problems confronting bus operators in their task of economising whilst at the same time doing nothing to deter traffic but rather to attract it. The methods must vary from undertaking to undertaking and some were reviewed by Mr. J. Spencer Wills when, as chairman, he spoke at the annual meeting of the Birmingham and Midland Motor Omnibus Co., Limited. It was hoped that the forthcoming introduction of 10s. anywhere tickets, which would enable the purchaser to travel anywhere on Midland "Red" stage services for a day, would attract many people, particularly during the holiday season. While reductions were being made in services where volume of traffic no longer justified present frequency, it was at the same time necessary to be ready to increase operations on routes where, by reason of housing development and the like, existing services were proving inadequate. One-man buses had been introduced on a number of suitable routes and their number was being increased.

One-Man Buses and Other Remedies

WE referred last week to the problems involved in finding such services and in this connection Maidstone and District Motor Services, Limited, has been conducting an interesting experiment on its Sheerness—Chatham service (40), which is extended to Gravesend and Dartford during the summer. In the winter it operates every three hours through the congested Medway towns and it was decided to try imposing a 6d. minimum fare on this service, which is operated by one-man buses, between Rainham Mark and Chatham (Strood (Coach and Horses) in summer). This was done on April 20 and experience so far shows that it is possible to operate this type of service with a one-man bus despite its entering the urban area and sharing the route with other high-frequency services. This certainly helps, but the real remedy if the stability of British bus operation is to be maintained lies, as Mr. Wills suggested, in the removal of the penal tax on fuel oil. It can also be argued that equally beneficial results would arise from an increase in the speed limit for public service vehicles from 30 to 40 m.p.h. This would only be in accord with modern design and the relation thereto of the surrounding circumstances.

Kent Coast Electric

HOURLY interval express services, with a 100-min. run (94 min. for peak holiday extras) from Victoria to Margate, are planned by the Southern Region for the Kent Coast line next year. Target date for the introduction of these all-electric services is June, 1959. There will be four different types of service. First come special business services between Cannon Street and Margate and Ramsgate, connecting with Dover trains via Faversham and Canterbury—similar to the present steam services but cutting between 10 and 20 min. off the journey time, with possibly one or two extra trains to and from Victoria. Up trains will start later and arrive in London at the same time as they do now; down trains will leave London at the present times and get passengers home earlier. Off-peak express services will operate betwen Victoria and Margate and Ramsgate, and between Victoria and Dover Priory via Canterbury East. There will be semi-fast services between Charing Cross and Margate and Ramsgate, and between Victoria and Sheerness-on-Sea. New all-stations facilities will be given between Sheerness-on-Sea and Dover Priory and local connections will be made from Sittingbourne to Sheerness out of the semi-fasts from Charing Cross and vice versa. The Ramsgate and Dover Priory expresses will run as one train as far as Gillingham, and then divide, one part going to Ramsgate and the other to Dover Priory. Victoria and Ramsgate expresses will call at Bromley South and Chatham before reaching Gillingham in 47 min. New rolling stock is being built for the express services—trains will consist of four-coach multiple units, some with buffet cars, and it will be possible to walk through the whole length of the train. Local facilities will be given by two-coach sets, one a second-class and the other a composite lavatory coach.

White Paper on Vehicle Testing

CERTAIN hackney carriages and all goods vehicles not exceeding 30 cwt. unladen weight (with possibly a few special exemptions) which are 10 years or more old will be among the first to become subject to periodic fitness tests under the Government's vehicle testing scheme, proposals for which were published this week as a White Paper. Cmd. 430, H.M. Stationery Office, price 9d. net. Tests will be confined to brakes, lights and steering and will only take account of other possible defects insofar as they affect the efficiency of the three prescribed items. Uniformity of treatment by different examiners is sought by the laying down of uniform standards by the Minister of Transport and Civil Aviation. These are set out in an appendix to the White Paper; they apply both to condition of the mechanism and to performance and require, for example, that a vehicle with the main brakes operating on four wheels shall be able to stop in 34 ft. from 20 m.p.h. (0.39g.) and that headlamps must be permanently dipped or capable of being dipped so as not to cause dazzle. Testing stations will be commercial garages or stations set up by local authorities, from which applications will be invited shortly and which will not be authorised until approved by a Ministry examiner. Testing will not start until there are sufficient authorised stations to deal with the number of vehicles affected. Owners of rejected vehicles will be free to make their own arrangements for repair and a second test after repair will be carried out by the station that made the original test for the one fee of 15s. There will be the right of appeal to the Minister within two weeks against the refusal of a test certificate. The appeal fee of 25s. will be wholly or partly returnable if the appeal is allowed. An Order will be made fixing the date by which vehicles of various ages will be required to have a test certificate. The requirement that a certificate must be produced before a licence can be renewed will not be effective until the scheme is working smoothly and owners have had reasonable opportunity to get their vehicles tested.

Research and Aircraft Production

RETENTION at roughly its present level of governmental expenditure on aeronautical research was indicated by Mr. Aubrey Jones, the Minister of Supply, in the House of Commons on Tuesday. There would, however, be much more concentration upon civil aircraft projects instead of upon military ones. It was, at the same time, made clear that the British aircraft industry would have to consolidate its efforts very markedly if it was to continue to receive this backing. There are at present 14 airframe producers and five aero-engine manufacturers and the Minister felt that these ought to be reduced in number to three or four and two respectively if the endeavours not only to develop but to produce were to meet with success. Although not suggesting that it was necessary to copy the United States, he felt it should be pointed out that there, in a country with a much greater internal market for aircraft apart from export potential there were five major producers of airframes and two of engines. The industry must face the fact that it was likely to have to contract to its size before the Korean War. In other words its labour force would dwindle over the next few years from 250,000 to 150,000. The Government is looking seriously into the competitive problems created in the civil market by the readiness of U.S. manufacturers to buy back old aircraft against the supply of new ones. The Minister's insistence upon consolidation may not be particularly welcome to the industry. There have recently been several relationships established with varying degrees of relationship and, while hardly seeming like shot-gun marriages, their existence has usually been announced with a minimum of background music and with due stress upon how busy the partners are already. The method of evolution is left to the industry itself but it will behove it at least to make purposeful steps in the required direction. Certainly in some respects good may come of it and we have in mind especially the development of intensified selling campaigns abroad. Whatever the Government help may be, Britain will still need to export aircraft and, as Mr. Aubrey Jones has pointed out, there will not in the future be so many military types to export.

I.R.F. to See Mexico

PRESENT-DAY Mexico is the scene of extensive road building and visitors to the third world meeting of the International Road Federation, which is to take place in Mexico City from October 26-31, next, will have the opportunity of observing road works under a variety of conditions. Apart from a large-scale programme for 1958, modern expressways are now under construction and Mexico's farm-to-market road programme is acknowledged one of the best in the world. In 1957 the Government set a new record for expenditure on transport and communications, and out of some £31 million a total of £24 million was spent on roads alone. Expenditure on rural roads amounted to £5 million, and over £1¼ million was spent on bridges and underpasses. Delegates will include representatives of national road federations from all over the world, members of international organisations, government officials and prominent leaders of commerce and industry. The inaugural meeting will be held on Sunday, October 26, at the Palace of Fine Arts, when Sr. Adolfo Ruiz Cortines, President of Mexico, opens the congress. Working sessions will be held on three following days and reports from international and national bodies will be presented on the social and economic aspects of roads and road transport; on technical training of highway engineers; and on modern methods of road financing. On October 30, delegates will visit the El Olivar Operators Training Centre, where instruction is given annually to some 1,000 students on the use and operation of road-building machinery.

A Pointless Suggestion

INSPIRED by what it apparently considers to be the congestion-free streets of Central London during the bus strike, the Greater London area council of the National Chamber of Trade has written to the Minister of Transport and has, to boot, sent him a resolution calling upon him to insist that London Transport revise its services in the central area to reduce the number of buses running through it. It is unfortunately typical of the wilder kind of suggestion that comes too frequently from bodies which should show more sense of responsibility. It is all too obvious that the permanent reduction in passenger traffic which the strike will almost certainly induce must lead London Transport to prune some of its services, where this can be done without undue hardship to the remaining riders, but the contention that the buses are the main contributors to the congestion is of dubious validity. Travel in the central area in the past 11 days has confronted us with traffic jams which we have never seen in normal times with a solid mass of vehicles outside our office and stretching north to St. Pancras Church and south to Holborn (Kingsway) Station. Nor have such encounters been confined to the central area for we have suffered them also for more than a mile of the North Circular Road owing to the congestion caused by radial traffic to and from Central London and another sizeable specimen from Bricklayers Arms to New Cross Gate. It all seems to be another attempt to hark back to the wheel plan which the council put forward in 1953. We said what we thought of it in our issue of January 9, 1954, and we see no reason to modify our view then that it emphasised "the chaos which could be created by amateur interference in complex transport questions."

Haywire In Trafalgar Square

ON view in Trafalgar Square until May 20 is *Haywire*, one of the four Tucker Sno-Cat vehicles which played a vital transport role in the 2,150-mile journey across Antarctica recently completed by members of the Trans-Antarctic Expedition under the leadership of Dr. Vivian Fuchs. The vehicle will feature in a civic reception for the party in Cambridge on May 23, after which it will make a country-wide tour lasting four months, visiting major towns and cities in the British Isles. *Haywire* is the only one of the Sno-Cats that will be seen in Britain. It was presented to the British Petroleum Co., Limited, by the Trans-Antarctic Expedition in appreciation of the contribution made by the company in providing free of charge all petroleum fuels and lubricants, including ship's bunkers, for the whole expedition, both for the United Kingdom party and for that from New Zealand led by Sir Edmund Hillary. *Haywire* reached Britain from Antwerp by the Transport Ferry Service and was reputedly lying peacefully on its Crane semi-low loading trailer when the ship reached Tilbury. Thereafter a Beck and Pollitzer E.R.F. hauled it to London and this firm will, indeed, be responsible for haulage throughout its tour.

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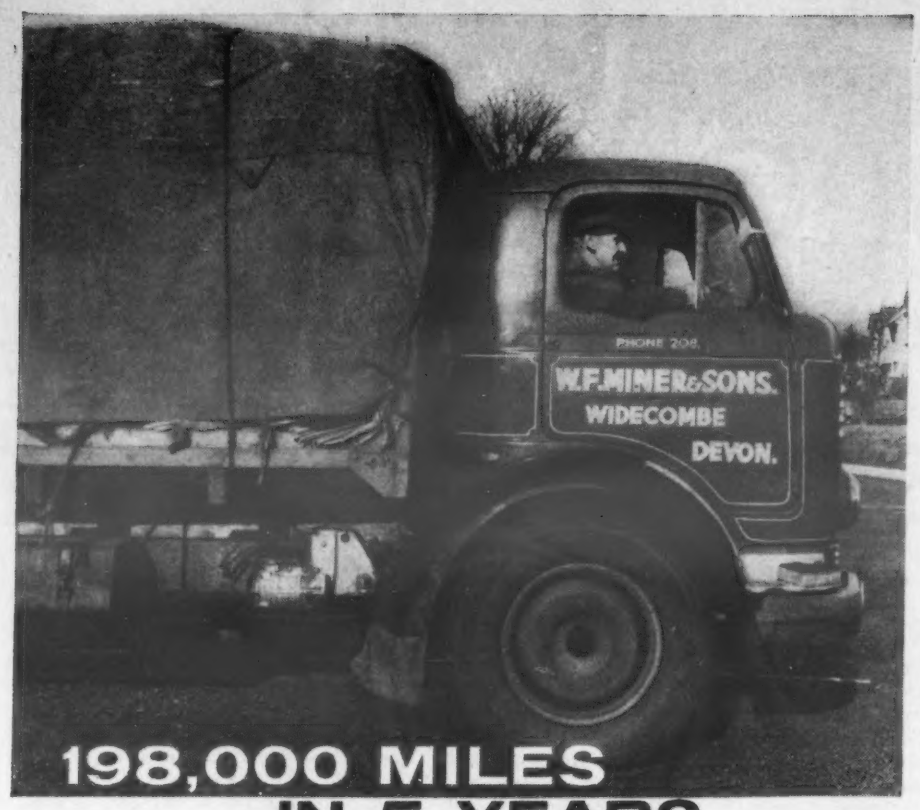

198,000 MILES
IN 5 YEARS

—and still no need for a re-bore

W. F. Miner & Sons operate a long distance haulage fleet based at Widecombe-in-the-Moor, Devon. Recently they examined their 7-ton type QX Commer which had run on Shell X-100 30 from new and had then 198,000 miles to its credit. When the sump was removed the crankcase and internal compartments were found to be so clean and free from sludge that the sump was replaced without any work being done. Next the cylinder head was removed and cylinder bore wear was measured and found to be less than 1/1,000 of an inch wear. "In five tough working years, the only repairs done to this vehicle were to replace three exhaust valves", comments Mr. Miner. "It proves the wisdom of using only Shell X-100 for petrol engined commercial vehicles run under arduous conditions".

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X-100
MOTOR OIL

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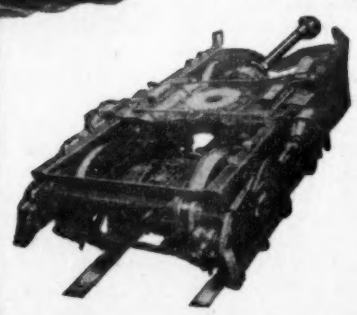
Cardan Shafts
and Universal Joints by—

HARDY SPICER

B-B type diesel-hydraulic locomotive for Indian Government Railways (Courtesy of North British Locomotive Co. Ltd.).

for
North British
Diesel Locomotives



Bogie of a North British diesel-hydraulic locomotive, showing cardan shaft with Hardy Spicer universal joints, coupled to final drive reduction gearing over the drive axle.

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MODERN TRANSPORT

Published Every Friday
RUSSELL COURT, 3-16 WOBURN PLACE, LONDON, W.C.1
Telephone Number: TERminus 0303 (3 lines)
Telegraphic Address: Transpuboo, Westcent, London

ANNUAL SUBSCRIPTIONS
BRITISH ISLES, 35/-; CANADA, 32/6;
ELSEWHERE ABROAD, 35/-
payable in advance and postage free

The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

We desire to call the attention of our readers to the fact that Russell Court, 3-16 Woburn Place, London, W.C.1, is our sole London address, and that no connection exists between this newspaper and any other publications bearing somewhat similar titles.

An Identity of Interest

THE negotiations between the union leaders and the British Transport Commission arising out of the latest railway wages dispute have at least demonstrated the community of interest between men and management. The idea that the rapacity of the employers was preventing a just reward for labour must have been rudely dispelled. Also plain to the lowest intellect must be the fact that wages do not come out of a bottomless purse but from revenue earned; that there is no sure way to increased earnings and, ultimately, higher wages, but only through increased efficiency and the cutting out of redundant and uneconomic services. It has taken a long time for these facts to be established on the railways and much of the blame for ignorance amongst the rank and file must be attributed to union policy which, up till quite recently, has been loath to encourage co-operation and to discourage inordinate wages demands. In the recent negotiations the patience and perseverence of Sir Brian Robertson and his colleagues have been matched by the responsive restraint of the union leaders, and especially Messrs. Greene, Hallworth and Webber; there has indeed been goodwill on both sides, with recognition perhaps that the future of the railways in the national transport system is at stake. Throughout the world, with minor exceptions, railways are experiencing financial difficulties for which, in this country, Parliament is largely to blame. Reverting to the earliest days, the land-owning element, predominant at Westminster in the early nineteenth century, encouraged extortion, thus increasing capital costs; while business interests in Parliament, born of the industrial revolution, encouraged competition and restrictions on charging.

Government Responsibility

IN more recent times two world wars produced railway controls which yielded handsome profits to Government, from whom the railways received scant consideration or encouragement in the difficult interim period when under quasi-monopolistic restrictions they had to fight increasingly fierce competition. And in the decade following the last war, despite latter-day public ownership, they were hamstrung by parsimonious capital resources. Based upon an intention to get the best out of transport in the national interest the principles underlying the Transport Act of 1947 were commendable, but its child the Commission, despite the duty to make its undertaking pay, soon found it was not master in its own domain. Unkindest cut of all was the 1953 Act's insistence that it should sacrifice a big slice of its remunerative road haulage business, which had just begun to function as an entity. Though the blow was slackened somewhat by the last-minute removal of many of the out-dated restrictions on railway charging, magnanimity could not be claimed for that gesture because the railways would have been benefiting from it since 1939 had not the advent of war robbed them of justice under their "Square Deal" campaign. So neither Commission nor British Railways, despite all their shortcomings, have reason to be thankful to Government; its responsibilities must have been uppermost in the mind of Sir Brian Robertson when, with his colleagues and the representatives of the workers, he waited upon the Prime Minister.

Grounds for Consideration

AFTER a weekend of discussions between Ministers, by the Cabinet and between Ministers and Sir Brian, proposals were put to the three unions on Tuesday which provided for an increase of 3 per cent in wages with effect from the week commencing June 30 and set on record the readiness of Sir Brian to discuss the establishment of an inquiry to examine comprehensively the whole wages structure. All this was achieved in the knowledge that the Government expected the British Transport Commission to find the required sums itself by economies and the like. As we foreshadowed months ago, the B.T.C. finds it necessary to make some drastic cuts in order to provide the wherewithal. When we went to press the official reactions of the unions had still to be announced, but there was some reason to hope that the proposals would be accepted. If that is the case it must be accepted that repercussions will be widespread. Little-used facilities will vanish in the search for economies and it may well prove difficult to provide any substitute at all as long as the Government clings to its unhelpful belief that road transport operators can cope simultaneously with dwindling traffic and an iniquitous fuel tax. The B.T.C. is likely to have to find a further £9 million to meet increased wages of workers covered by the claims, while consequential adjustments to other staff could require a further £5 million. This will take a good deal of finding as it is obviously injudicious to seek a further general fares increase at the present time, even if something is done to adjust those which are still at sub-normal levels. If the proposals find general acceptance it will be greatly to the credit of most of those concerned—we doubt whether much can fairly be apportioned to the Government. The spirit of railwaymen, which had been enlivened by the modernisation programme, should be buoyed up and the comprehensive inquiry envisaged should also assist to this end. There will, however, remain much to be done apart from determining appropriate wage structures.

Welfare and Amenities

UNFORTUNATELY many railwaymen still work under dirty and depressing conditions. This, of course, is due largely to the great age of the buildings—offices, depots and sheds—and more especially to the effects of steam traction which is fast being replaced. By chance rather than design a debate took place in the House of Commons on May 9, when Mr. Francis Noel-Baker, Labour Member for Swindon, moved that further provision should be made for the health, welfare and safety of railway and allied workers in the light of the recommendations of the Gowers Committee. This body recommended that the Factories Acts should apply to locomotive sheds and that regulations similar to those applying to office workers generally should be extended to railway offices. The Commission, while admitting the reasonableness of the proposals and expressing an intention to effect improvements as and where necessary, denied the need for legislation which, however, the Government has at various times indicated its intention to introduce. Answering the debate Mr. Nugent, Parliamentary Secretary to the Ministry of Transport, said that the existing programme was making a significant improvement in facilities for railway workers and modernisation schemes were often automatically accompanied by new staff accommodation. Improvements were going as fast as they could be required to do by legislation. It was still, he said, the intention of the Government to proceed with a Bill when the time was opportune; whether that would be within the lifetime of the Government he could not predict. An enabling Bill was a possible solution, but it needed careful consideration and was bound up with the legislative programme as a whole. The Commission had in fact initiated many welfare improvements and other amenities which will increase as modernisation gets under way; the need for legislation is obscure.

Forthcoming Events

May 17.—Permanent Way Institution (Manchester and Liverpool). Visit to Cammell Laird and Co., Limited, Birkenhead. Meet Green Lane Station. 9.45 a.m.
May 18.—Omnibus Society (Midland). Morning visit to Burton Corporation and Blue Bus Service, Willington. Omnibus Society (Headquarters). Joint visit with Midland branch to Trent Motor Traction Co., Limited. Meet Uttoxeter New Road, Derby. 2.30 p.m.
May 19.—Omnibus Society. Paper by Mr. T. F. Turton, "Cambridge Transport—Its Evolution." At Victoria Coach Station, S.W.1. 6.45 p.m.
May 28.—Railway Students Association. Annual general meeting and election of committee. At London School of Economics, Houghton Street, W.C.2. 6.15 p.m.
May 31.—Light Railway Transport League. Paper by Mr. V. E. Burrows, "The Tramways of Rome." At 153 Drummond Street, N.W.1. 3 p.m.
June 3-6.—Institute of Transport. Congress. In Dublin.
June 20.—Institute of Navigation. Discussion, "The Significance of Blunders in Navigation." At Royal Geographical Society, 1 Kensington Gore, S.W.7. 5.15 p.m.
September 1-7.—Society of British Aircraft Constructors. Flying display and exhibition. At Farnborough. (Public days September 5, 6 and 7.)
September 26-October 4.—Commercial Motor Transport Exhibition. At Earls Court.
November 5-16.—International Motor Show. At Turin.

MODERN TRANSPORT has an arrangement with Reuter's Trade Service whereby publication is made in this newspaper of all essential news from all parts of the world concerning traffic and transport by rail, road, sea and air and allied interests.

TRANSPORT IN THE CAPITALS

EXHIBITION TRAFFIC IN BRUSSELS

Principally Handled by Tramway

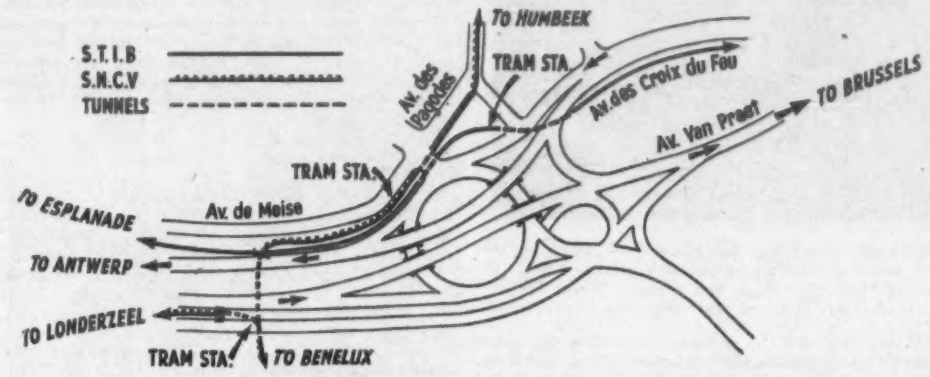
LIKE many other countries Belgium has an enormous traffic problem. In 1945 there were barely 100,000 vehicles on its roads; today there are 950,000, of which at least 105,000 are in Brussels. This phenomenal growth in the number of vehicles in a small country has given the Belgians food for thought. To relieve the situation £200 million is being spent over a period of 15 years on a road construction programme covering the whole country. A good deal of that part of the programme which covers Brussels has already been completed. The work was planned so that the new arrangements would be ready for the Universal Exhibition, which was opened on the Heysel Plateau on April 17 and will continue to October 19.

Statistical

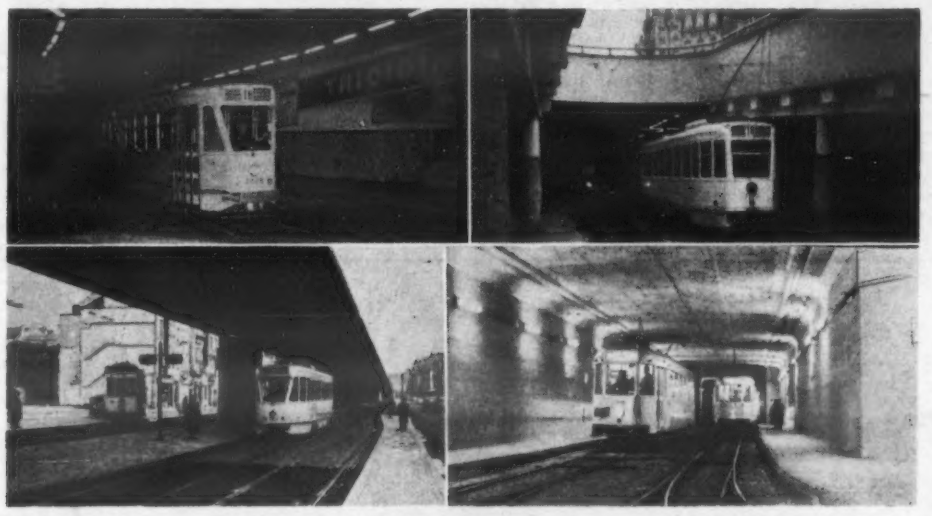
As readers will be aware from previous articles on the subject, new boulevards, bridges, viaducts, motorways and tunnels have been railway in Brussels is the main line connection between the Nord and Midi stations used principally for through traffic and airport connection trains. The S.T.I.B. has 7,016 employees and 315 km. (197 miles) of route, of which 239 km. (150 miles) are served by tramway, 16 km. (10 miles) by trolleybus and the remainder by motor bus. There are 1,021 motor trams, 416 trailers, 24 trolleybuses and 120 motor buses; some 280 million passengers were carried in 1957.

Alterations

The most notable alteration to the tramways has taken place at the Place de la Constitution—the Elephant and Castle of Brussels. At this important and complex road intersection an imposing tram subway has been constructed and is now being used by 17 routes. This subway, which it has taken five years to construct, was officially opened last year—on December 16—in the presence of the Minister of Transport and the Minister of Public Works (almost half a century after the full opening of London's now-defunct Kingsway tram tunnel) and thrown open to tram traffic the following morning. It is the first part of the



Road and tramway rearrangements at Carrefour de Gros Tilleul



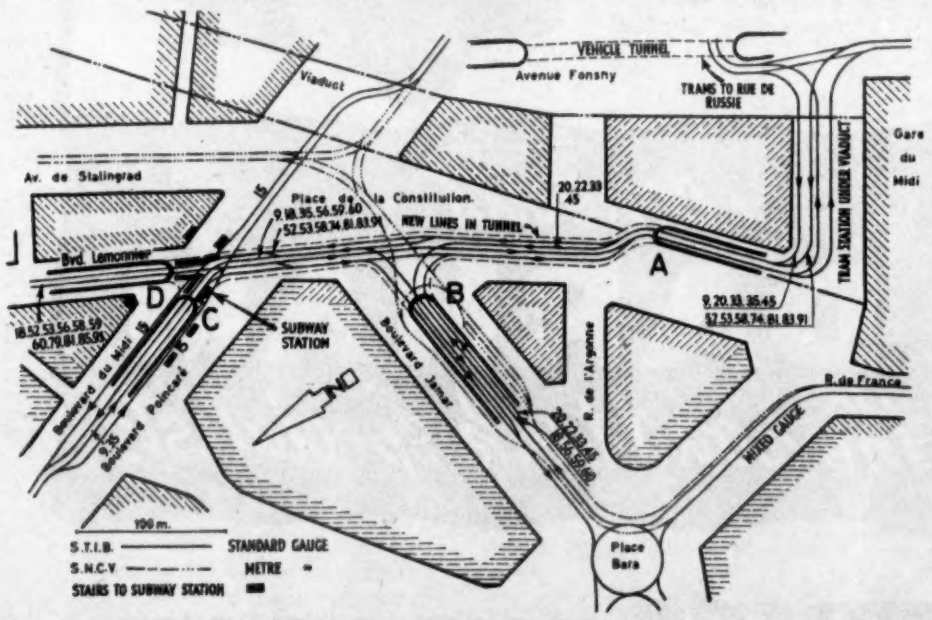
Brussels P.C.C. type tram in the four-platform tram station at the junction of the tunnels leading from the Boulevards Lemonnier and Du Midi under the Place de la Constitution; Boulevard Lemonnier entrance to the tunnels; below, tramtrack under the elevated motorway in the Boulevard d'Anvers; and, right, S.N.C.V. metre-gauge cars in that undertaking's subway station at Gros Tilleul

constructed to meet the ever-growing requirements of modern traffic and already traffic is moving freely and with unaccustomed speed. The work has included the construction of tunnels for the exclusive use of trams and the placing of a considerable additional mileage of tramtrack on private rights-of-way, bringing the total mileage of reserved track in Brussels roundly to 75. From the public transport aspect this segregation of trams from general traffic is of great importance, for in Brussels trams handle the bulk of the passenger traffic.

They are operated by two undertakings—the Société des Transports Intercommunaux de Bruxelles (S.T.I.B.) and the Société Nationale des Chemins de Fer Vicinaux. The S.T.I.B. trams (standard gauge) work most of the city services; the S.N.C.V. trams (metre gauge) serve mostly the outlying districts. The only underground proposed tram tunnel connection between the Nord and Midi railway stations. For most of the remaining section it is planned to use the tunnels which formerly carried the River Senne; work on the conversion will start after the Exhibition closes.

The subway now in use consists of a main tunnel, carrying four tracks, with a branch at each end as seen on the diagram. The south approaches are from the tram station under the railway viaduct outside the Midi Station (A), and from the Boulevard Jamar (B); at the north end the branches come out in the Boulevard Du Midi (C) and the Boulevard Lemonnier (D). All the branches have two tracks, except the Boulevard Jamar branch, which has four. The total length of the subway, including the ramps, is 750 metres. The main tunnel is 14 metres wide and 5.2 metres high; and the maximum gradient is 1 in 17. The

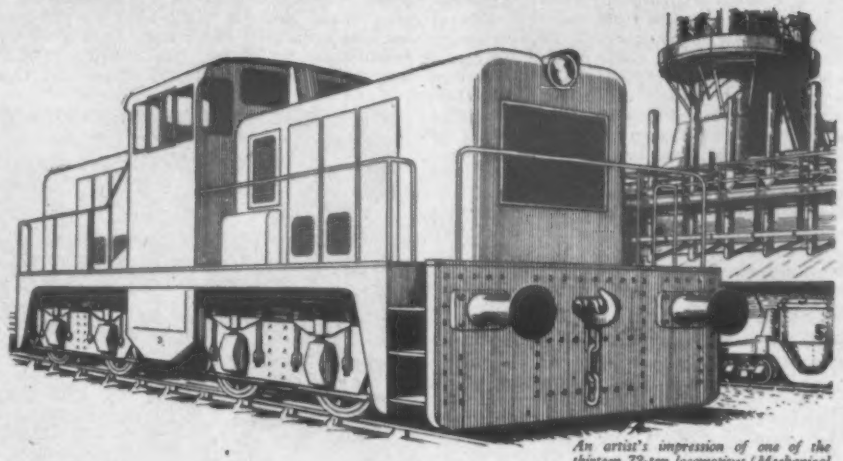
(*Continued on page 14*)



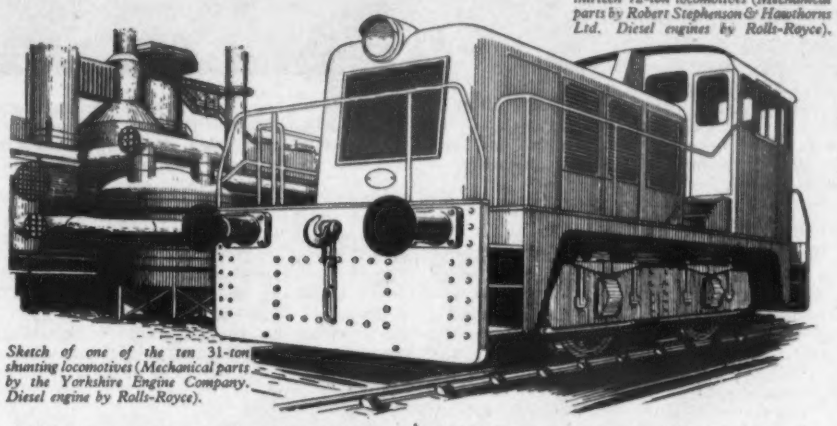
Tramway tunnels and stations by the Place de la Constitution, near the Midi station in Brussels

B T-H

DIESEL-ELECTRIC LOCOMOTIVES FOR INDIA'S STEEL INDUSTRY



An artist's impression of one of the thirteen 72-ton locomotives (Mechanical parts by Robert Stephenson & Hawthorns Ltd. Diesel engines by Rolls-Royce).



Sketch of one of the ten 31-ton shunting locomotives (Mechanical parts by the Yorkshire Engine Company. Diesel engine by Rolls-Royce).

British Thomson-Houston, as a constituent Company of the Indian Steelworks Construction Company (ISCON), has in hand orders for a total of 23 diesel-electric locomotives for use in the Government of India's Durgapur Steelworks. The electrical equipment of the thirteen 72-ton Bo-Bo units and ten 31-ton 0-4-0 units will be of BTH design and construction throughout.

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R.H.A. Advertising Campaign

AT the annual luncheon of the Road Haulage Association on Tuesday this week, Mr. R. G. Crowther, the national chairman, announced that the national council had decided to embark upon a substantial advertising campaign to make the Association and the work of its members known to the country. This campaign might cost something like £100,000 and an appeal would be issued to all members of the Association to support it in this effort to protect their interests. Mr. Crowther called upon them to give the appeal their full support by contributing as much as they could, and certainly not less than the amount they contributed annually for the ordinary expense of running the Association. The campaign would be advertising the industry's goods and services and would therefore not be an attack on any Government. (For election of new chairman and vice-chairmen see page 15.)

Edinburgh Rover Ticket Idea

FAMILY rover tickets for issue on Sunday have been approved in principle by Edinburgh Transport Department. The proposal by Mr. W. M. Little, the transport manager, is for a 2s. 6d. ticket which would permit unlimited travel by a party of up to two adults and two children.

Unit Handling of Bricks

BRICK handling in blocks of 45-50, strapped by cold rolled steel bands so that they can be lifted as a unit by crane or special barrow, was demonstrated by the Building Research Station of the D.S.I.R. in Glasgow last week. Substantial savings in time and money are claimed for contractors by this method and quicker unloading of vehicles is possible.

Allison Refused C-Hiring Change

THE deputy Scottish area Licensing Authority has dismissed the application by Allison's Transport (Contracts), Limited, Dundee, to add 10 vehicles on A-licences to its fleet, replacing C-hiring licences. There were 14 objectors to the application, including British Railways and B.R.S. In his decision, Mr. Robertson said the firm had committed a series of offences over a long period. The statement says the applicants applied in December, 1954, for the grant of an A-licence authorising the use of 40 vehicles to replace vehicles on C-hiring. This application was rejected on April 1, 1955, the refusal being upheld on appeal. Mr. Robertson states that although the Transport Tribunal then indicated the type of evidence necessary to obtain A-licences to replace C-hiring, the applicant did not forthwith present another application. It would appear that the company decided not to make another application, as it did not wish a full inquiry to be made into the activities of the Balfield labour agency, which purported to supply drivers.

The application now refused was only made after the licensing authority had declared illegal the activities of the Transport Hire Agency of Aberdeen and after a number of court cases had resulted in heavy penalties for illegal C-hiring. Evidence of the need for vehicles to dispense with sub-contracting was not convincing, especially after evidence was given by Mr. Allison to the effect that quite recently he sold 14 special A-vehicles from his London base. "I agree with the submission made by Mr. Cowan, Q.C., who appeared for some of the objectors, that the applicant's C-hiring was done illegally. By no stretch of the imagination could it be held that the customer (the hirer) was the user in accordance with section 1 (3) of the Road and Rail Traffic Act, 1933. There would also appear to be some doubt regarding the legality of operation of his A-licences," said the licensing authority. "It is obvious that an applicant who is shown to have committed illegalities over a long period should be in some way, and to some extent, penalised for the wrongdoing."

This week a public-spirited London motor dealer has been operating a free bus service, using an ex-Aldershot and District Traction Dennis Lancet, on a circular route between Marble Arch, Hyde Park Corner, Charing Cross, Ludgate Circus, Holborn Circus and Oxford Street for strike-bound Londoners. The vehicle normally delivers scooters and miniature cars

Transport Development Group

IT seems inconceivable that blind pursuit by the Socialists of a theory should, in the case of road haulage renationalisation, lead to a complete disregard of practical experience, says Mr. P. S. Henman, chairman of the Transport Development Group, Limited, in his annual report for 1957. A large part of the present road fleet of the group, numbering about 400 vehicles, has never been nationalised, he points out. Nevertheless, expansion of the long-distance services is resulting in the addition of many larger and heavier vehicles. The administrative pattern of the group remains flexible, but it has been possible to reduce overhead expenditure by amalgamating certain smaller subsidiaries with larger associates. Each new company added to the group is brought in because it can contribute in some way towards the development of a comprehensive transport service. "We shall probably work harder in 1958, but we shall most certainly be the better thereby," says Mr. Henman.

Radio Control Saves Vehicles

A RADIO control system for internal delivery vans at the 60-acre Nottingham factory of Raleigh Industries, Limited, has resulted in a saving during the past year of two vehicles out of a total internal fleet of 34. A year ago Raleigh introduced the system in 10 of its vans. It was found that by directing the vans from one job to another without the necessity for them to report back to headquarters it was possible to do the work of the 10 vans with only eight. The system has further increased production time and it is estimated that vans now work a full day where previously their productive time was only some four hours a day.

Coventry Defies N.J.I.C.

DESPITE the rejection of a scheme for annual safe-driving payments by the National Joint Industrial Council for the Road Passenger Transport Industry, Coventry Transport Committee is to make annual safe-driving payments of from 20s. to £10 according to length of service to some 450 Corporation bus drivers. The next meeting of the Transport Committee will decide on the effective date. A five-man delegation from Coventry went to London recently but was refused a hearing on the issue. Letters and a subsequent telephone call had confirmed that they would be received by the N.J.I.C., but when they arrived at Transport House they were not only refused a hearing, but were told the matter had already been discussed—and rejected. The delegation has urged the Transport Committee to send a strong protest.

In introducing the payments without approval, the Committee will run into conflict with the N.J.I.C., but the view of the Committee is that the drivers deserve the payments. The Committee pointed out that its bus drivers cover three times the mileage of other Corporation drivers who already receive such payments. The N.J.I.C., however, has adhered to a 1951 agreement not to authorise any new awards. Last year a profit of £68,693 was made at Coventry, the best result for 10 years. It has enabled the department to liquidate the deficiency of £3,707 from last year, meet debt charges and some capital items and leave £55,665 for appropriation. The reserve fund is now £35,000. Passengers carried last year were nevertheless more than six million fewer than in the previous year. There was one fare increase during the year.

Lincolnshire Fares Inquiry

DECISION was reserved last week after a two-day hearing by the East Midland area Traffic Commissioners in Lincoln on a proposal by the Traffic Commissioners to vary the conditions attached to licences issued to Hudson's Bus Company, Horncastle, to bring its fares into line with those charged on routes common to both by the Lincolnshire Road Car Co., Limited. Explaining their attitude in opposing the proposal, Mr. John Edward Hudson, a partner in the independent company, said that there was always a maximum to which fares could go and that Hudson believed that it was at that maximum. Lincolnshire claimed that lower fares charged on common routes were causing serious abstraction of passengers from them.

Mr. J. R. Samuel-Gibbon, for the Lincolnshire company, gave examples of the fares charged on the same routes by three companies. With Lincoln Tours, Limited, the Road Car Company and Hudsons in that order they were: Lincoln to Washingborough single, 7d., 7d., 5d., workmen's return 1s., 1s., 9d.; Horncastle single, 2s. 9d. and 2s. 2d., return, 4s. 11d. and 3s. 11d., workmen's return, 4s. 3d., and 3s. 4d.; Spilsby single, 3s. 11d. and 3s.; Skegness, 5s. and 4s. 2d.; Branston, 11d., 11d. and 8d.; Bardney, 1s. 4d., 1s. 4d. and 1s. 1d. Lincoln Tours, Limited, has directors who are also partners in Hudson.

Mr. H. J. Downs, Lincolnshire traffic manager, said that there was no competition between his company and Lincoln Tours, Limited, on common routes because Lincoln Tours provided early morning services not provided by the company. General manager and director of Lincolnshire Road Car, Mr. R. F. Bushrod, said that if Hudson did not rectify the position the Road Car would seek to abandon some of the unremunerative services and to increase fares on routes not the subject of competition. "We think that none of that would be in the public interest," he said.

Bus and Coach Developments

Grey Coaches, Limited, applies for interchange of passengers at its Peckham coach station with W. King and Sons, Limited, with resultant economies in operation.

Yates Tours, Limited, Runcorn, seeks the licences of Sexton and Scragg (Widnes), Limited.

E. J. Bostock and Sons, Congleton, proposes to take over the excursions and tours from Macclesfield of Moss and Smith (J. M. Moss).

Mulley's Motorways, Limited, Ixworth, applies for the licences of E. J. Mulley.

The Eastern area Traffic Commissioners propose to vary the licence conditions of a number of operators terminating at Saturday Market Place, Kings Lynn. It involves a new terminal point in Bridge Street and consequential route modification.

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G.E.C. Unit for Transport and Industry

ELECTRIFICATION of certain British Railways main and suburban lines on the 25-kV, 50 cycles, single-phase system has brought the need for rectifiers of much smaller size for a given output than conventional mercury-arc types, and suitable for installation in vehicles subject to vibration, impact shocks and other random movements. To meet these conditions the General Electric Co., Limited, has developed a new unit, the Com-Pak mercury-arc rectifier and rectifiers of this type are to be installed in the locomotives and multiple-unit equipments which the company is supplying for a.c. electrification on British Railways. This type of rectifier also has advantages for various conditions of industrial service, particularly where space is severely limited.

The Com-Pak rectifier is a single-anode cylinder with liquid cooling. It is being made in two sizes, the C7-Mk. 1, rated to give a continuous output of 120 amp. at up to 1,250 volts, and the C9-Mk. 1 unit of double this capacity. Overload capacity is 125 per cent of rated current for 2 hr. in accordance with B.S.1698 class II. Cathode spot stability combined with efficient cooling has made it possible to achieve the high outputs required within the limited dimensions of these rectifiers. Furthermore, in the Com-Pak rectifier the arc path is shorter, the voltage drop lower and consequently the efficiency higher than in conventional types of mercury arc rectifier. The anchoring of the cathode spot has also facilitated the incorporation of additional devices to restrict swilling of the mercury caused by vibration and shock, while enabling certain other forms of baffle to be dispensed with so that a smaller anode-cathode separation than usual becomes practicable. The lower arc drop also reduces cooling requirements.

Com-Pak rectifier equipment installed in a British Railways bogie van for tests under service conditions

Squirt-Type Ignitor

The ignitor is of the squirt type. A plunger is pulled down by energising a solenoid external to the rectifier, which forces a jet of mercury from a small nozzle against the excitation anode and completes a circuit to establish a direct current arc between the excitation anode and the cathode. This continuous excitation current is used to actuate a contactor which breaks the ignition solenoid circuit and allows the plunger to rise again to the top of the ignition tube. In the event of failure of the excitation current, the contactor recloses and re-energises the ignition solenoid. Excitation current varies between 3 and 6 amp. depending on the supply voltage. The excitation circuit for each rectifier cylinder is fed from a separate source and is self-contained.

In electric motor coaches and locomotives the rectifiers will be connected to give full-wave rectification. Eight cylinders, supplying the four 200-h.p. motors of a motor coach, together with the cooling apparatus and water pump, will occupy a cubicle measuring approximately 6 ft. 4 in. long, 2 ft. 9 in. high and 2 ft. 6 in. deep. Ignition circuit equipment will be installed separately in another case. An installation for a 3,300-h.p. locomotive might be divided between two cases, each about 6 ft. long, 4 ft. 6 in. high and 2 ft. 6 in. deep, containing all the apparatus except the coolant pump, which would be mounted separately.

Shock-Tested on British Railways

Tests of the rectifiers have been carried out in close collaboration with British Railways. For this purpose, two bogie parcel vans were made available. One housed a 130-kW diesel-alternator set which provided the source of power, and the other contained the rectifier equipment, transformer and loading resistance. The rectifier equipment included four units (one acting as a spare) assembled in a framework comparable in size with that which would be used for under-carriage mounting on multiple-unit rolling stock. The transformer permitted two conditions of d.c. loading, namely 130 amps. at 1,000 volts or 260 amps. at 500 volts, giving a current loading on each rectifier of 43 and 86 amps. respectively.

Tests included repeated shunting at walking pace against fixed buffers, giving rise to particularly violent shocks on the rectifiers. This was followed by runs at speeds up to 45 m.p.h. which included emergency stops and accelerations. The vans formed part of a close-coupled passenger coach train, and trial runs were made with the test vans at the front of the train and repeated with these vans at the rear. Similar tests were made with the vans attached to loose-coupled freight trains, when the shocks experienced were more severe than those likely to occur in normal service. Finally, the test vans were coupled close to the locomotive of a high-speed passenger train, when speeds up to 90 m.p.h. were recorded. Throughout these tests, the performance of the equipment was satisfactory, only minor modifications to the mounting of the rectifiers being needed to give improved flexibility.

Test Rig at Works

During the test a Hallade recorder was used by officials of British Railways to provide a continuous recording of vertical, horizontal and canting movements as well as speed, acceleration and deceleration. From this information a rocking platform has been constructed for use at the works. With this equipment service conditions are closely simulated and rectifiers have now been tested under continuous full-load and cyclic loading conditions such as would occur in normal traction service. A rectifier mounted on this rocking platform was recently on show on the G.E.C. stand at the German Industries Fair at Hanover.

Com-Pak rectifiers operating from a single-phase system have also been used for supplying power to traction motors on test at the works, when the opportunity was again taken to study their behaviour when supplying cyclic loads. Investigations are also being made on the performance of these rectifiers on industrial loads, and a 350-kW, 440-volt, six-phase equipment has been installed in the power house of the Witton engineering works of G.E.C. for this purpose.

Road Vehicle Industry

TIME SAVING WELDING

AUTOMATIC equipment now being used for the welding of axle cases at the Birmingham factory of Fisher and Ludlow, Limited, has reduced average welding time to one-eighth of that taken by former manual methods on certain thicknesses of material. The equipment, which has been supplied by Quasi-Arc, Limited, consists of two Unionmelt D.S. automatic welding heads, mounted on a runway above the jigging, which are traversed at welding speeds through a split lead screw. Each end of this has its own driving motor, making the traverse of the two heads independent. The axle cases consist of two pressed halves which are placed together horizontally in the jig, where they are held correctly aligned by air-operated self-locking clamps. The same mechanism operates curved metal strips which hold the Unionmelt powder on the curved surface of the weld area.

Largest Liquid-Oxygen Tanker

BELIEVED to be the largest of its kind in the world, a new road tanker with a capacity of more than 300,000 cu. ft. of liquid oxygen has just been commissioned by British Oxygen Gases, Limited, for operation in its Yorkshire district. The company's previous largest vehicle was a 12-ton Sentinel tanker of 200,000 cu. ft. capacity. The new tanker employs an A.P.V. cylindrical tank mounted by Scammell Lorries, Limited, on a semi-trailer, which is hauled by an 11-litre Leyland diesel-engined Scammell tractor.

Vehicle Speed-Control Device

DETAILS of a device that will control the speed of a vehicle at any predetermined level, yet will permit acceleration beyond this point for a short period when circumstance demand it, are given in the March, 1958, edition of *Abstracts*, the monthly publication of the United States Highway Research Board. The device, which acts on the throttle linkage and is electromechanically operated, is driven from the transmission (generally the speedometer drive) so that it controls road speed rather than engine speed. The required top speed is preset on a graduated scale and the device will prevent this speed being exceeded with normal pressure on the throttle pedal. When greater speed is required in emergency, pressure on the pedal sufficient to overcome the resistance of a 24-lb. compression spring overrides the control. The controlled speed can be held on the open road without use of the throttle pedal by pressing a locking button, and from this condition a touch on the brake pedal returns the throttle control to the idling position.

Italian Motor Show Date

LISTED in the international show calendar arranged by the Bureau Permanent International des Constructeurs d'Automobiles, Paris, and approved by the Italian Ministry of Trade and Industry, the 40th International Motor Show organised by the Italian Automobile Manufacturers' Association (A.N.F.I.A.A.) will be held in Turin from November 5-16. Information and details can be obtained from the Organising Committee, Corso Galileo Ferraris 61, Torino.

S.C.G. European Sales Tour

FOLLOWING up the interest created by its exhibits at the Geneva Motor Show, Self-Changing Gears, Limited, has dispatched its new demonstration bus (MODERN TRANSPORT, April 12) on an eight-week European sales tour. The vehicle, which is a comprehensive travelling transmission showroom, is scheduled to call at Antwerp, Brussels, Essen, Stuttgart, Munich, Vienna, Nuremburg, Brunswick, Hamburg, Bremen, Amsterdam and Rotterdam.

A.A. Foreign Guide

INVALUABLE as a reference book for all engaged in Continental travel, the 1958-59 edition of the *A.A. Foreign Touring Guide* has just been issued by the Automobile Association. Although drawn to rather small scale, the maps show all the principal motor roads as well as mileage between points, ferries and mountain passes, of which details are included in separate sections. Information on hotels, garages and many other facilities and advice on driving and travelling conditions make this 352-page book, which is provided for members as part of the association's overseas touring service, the most comprehensive guide available on Western European touring grounds.

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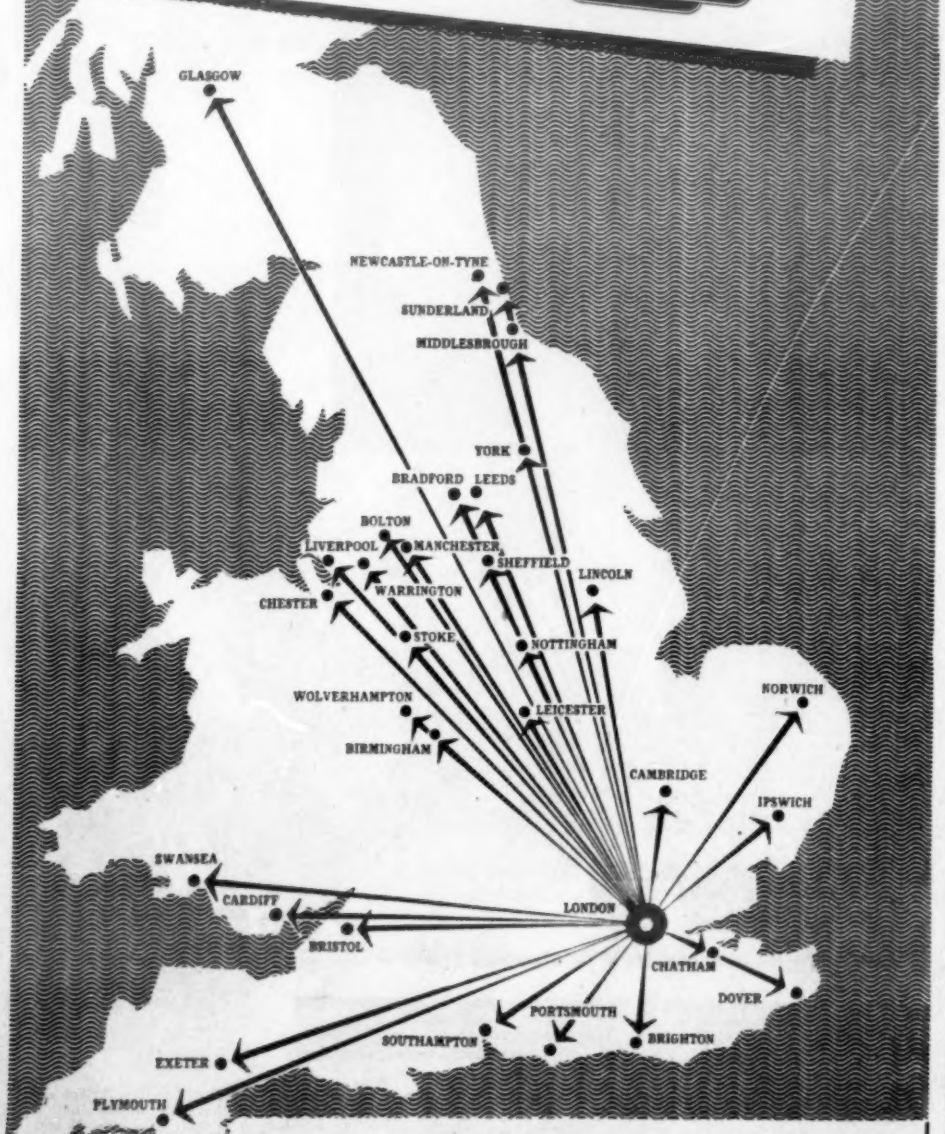
BRITISH RAILWAYS



BRITISH RAILWAYS
EXPRESS FREIGHT

THE CHANGING SCENE

Most Difficult Period for Road Passenger Transport

*By G. A. CHERRY, A.M.I.Mech.E., A.M.Inst.T., General Manager, Birkenhead Corporation Transport Department**

LOOKING over the range of problems that beset the industry, and after 40 years of almost continuous expansion and progress, four things stand out head and shoulders above the rest, i.e. (1) loss of traffic; (2) increase in cost of operation; (3) labour recruitment and staff discipline; (4) the changing relationship between trade unions, the Government and industry generally.

We do not have to look very far to find the cause of the alarm. Motor cars and motor cycles increased from 2,232,279 in 1946 to 5,214,116 in 1956. On Merseyside the number of vehicles passing through the Mersey Tunnel has increased from 3,512,791 in 1946 to 9,820,421 in 1957. The figures were 10,110,165 in 1956—the drop in 1957 is due to the Suez crisis. Television licences have increased from 1,893,000 in 1952 to 6,570,000 in 1956 and to 7,331,000 to the end of September, 1957. Cinema attendances dropped from 1,612 million in 1946 to 1,000 million approximately in 1957. Signs of these difficulties have been obvious since the end of 1946, but seem to have accelerated since the Suez trouble. We learned in that period, from the boost in our receipts, how much traffic we had lost to motor cars. The railway modernisation plan will continue to make inroads into the revenue of certain undertakings.

Mr. G. A. Cherry

Subsidy or Nationalisation

It seems to me that neither of two alternatives, subsidy or nationalisation, are with us yet. Most municipalities are operating in industrial areas and in spite of annual wage increases, continual rising costs and loss of traffic, through repeated fare increases and various forms of competition, they are still managing to obtain sufficient revenue to remain solvent. Furthermore the private companies are not operating entirely in unremunerative country areas, and they have the benefit of remunerative private hire work to compensate in some measure for other operating disadvantages, but if national prosperity persists and if the number of motor cars at present on the road is doubled in the next 20 years, as some people prophesy, and the drift away from public transport is continued and fare increases really begin to produce negative results, will there be a subsidy or a change of ownership and, if so, what form will it take?

It is doubtful whether the motorist will be singled out for any direct form of taxation. It is a paradox that with the booming prosperity of the nation, with labour able to command rates of wages and conditions unheard of in our history, public transport is facing competition on a scale never before experienced. We have to compete in a labour market where conditions over the last 12 years have enabled employers in private industry to pay wages that we have been forced to match in order to maintain essential services.

It will be difficult—it will always be difficult no matter how the pattern of transport changes—to find anyone in Great Britain who can claim that they or their interests are completely independent of public transport. It is obvious that few people could carry on their pattern of life if public transport ceased to exist, but it could mean that fewer and fewer passengers will pay higher and higher fares. Perhaps the greatest contribution that any Government could make would be to relieve public transport from fuel tax.

Over-Elaborate Docking Systems

Over the years very efficient docking systems have been developed by all operators to meet the needs of the particular service. These schemes have now reached such a high standard of efficiency that in nearly all towns and cities it is an occasion for comment to see a broken-down bus. Is it possible that we have now gone to the other extreme? With the modern vehicle I believe that docking systems in a great many undertakings are too elaborate. A great many components are overhauled or scrapped before either overhauling or scrapping is necessary. These schemes cost a lot of money and efficient and reliable services can be maintained with much less elaborate and preventive maintenance schemes than are in force today. Why do I say this? Look at the variations in the maintenance costs taken from the annual accounts for the year ending March, 1957, in respect of 68 undertakings, large, medium size and small. They vary from 2.7d. per mile to 6.7d. per mile.

I know that someone will say that operating conditions vary. Hilly districts, heavy loading, varying type roads, demarcation lines, varying wage rates, incentive bonuses, etc., can be the cause of this, but detailed examination might also reveal other reasons are responsible. For example, low output per employee, too many labourers and an elaborate docking system that is out of all proportion to the needs of the modern vehicle. The trade unions tell us that labourers halve the cost of maintenance. In my experience they tend to double it. I am not suggesting that labourers can be dispensed with, but I am suggesting that in a great many cases labourers working with craftsmen are a heavy and unnecessary expense.

To sum up, I believe it is possible to maintain an average of 230 buses with a minimum of operating costs and a minimum of lost mileage with the minimum of attention on the following lines:

(1) Engines to run on to 350,000 miles with no more attention than an injector change, tappet adjustment and cleaning of filters. It may even be found possible to extend the life of the engine beyond this figure, but the vehicle as a whole will have to come in for overhaul at the end of seven years to comply with C. of F. regulations.
(2) Engine oil change every 8,000 miles.
(3) Chassis to run on—i.e. gearbox, diff. and steering gear, propeller shaft, etc., until seven-year overhaul period. Any trouble in intervening period to be dealt with on a unit repair basis.
(4) Bodies will never be removed except in cases of serious damage through accident.
(5) Every vehicle to be inspected once a fortnight by one-day dock for such items as brake and clutch adjustment, lubrication, spring inspection, etc. Repairs that cannot be dealt with in one day to be passed over to maintenance men for unit attention.
(6) Metal frame bodies are not expected to give serious structural trouble throughout the whole of their life. Overhaul to take place at the seven-year period. Minor attention—i.e. window gear, floor lagging, destination gear, minor damage, etc., to be taken care of on a day-to-day basis based on the 14-day inspection.

Types of Vehicle

Operators are attacking the various problems from different angles, type of vehicle occupying major consideration—one-man bus, standee bus, and large capacity 30-ft. double decker. All of these can make some contribution to reduce costs in different circumstances, but none of them, in my opinion, will do more than touch the fringe of the trouble in a great many industrial areas.

In industrial areas such as are served in the main by municipal operators, it is doubtful whether more than 5 per cent of routes can be operated satisfactorily by one-man buses. On main-line services and even on secondary services where scheduled speeds are high, the time lost in fare collection and the increased journey time necessary, plus the loss of carrying capacity, make them useless for this type of service.

In spite of the obvious advantages of the standee bus, undertakings seem reluctant to adopt it to any great extent. There appears to be a natural reluctance on the part of operators to put into operation a service of single-deck vehicles designed to carry 32 seated passengers and up to 30 standing passengers, particularly if they are subject to any form of competition. In cases where we are trying to woo people on to buses and away from motor cars, motor cycles or even from walking, to expect people to take the risk of standing for a large portion of their journey is hardly likely to encourage traffic.

The large-capacity double-deck vehicle is now making its appearance in the efforts of operators to reduce the cost of operation, but here again in my opinion it is not capable of universal application. It is ideal for inter-town services where there is ample time for fares to be collected and where the extra seating capacity may avoid the need for duplication, or on that type of town service where schedule speeds are low and it has been found impossible to get them any higher, either because of trade union objections or for some other reason. Under these circumstances the large capacity vehicle could utilise journey time more efficiently and offset the cost of a slow operating schedule. Furthermore, in a great many cases if this vehicle is adopted, it might result in reduced frequencies by virtue of increased carrying capacity, and reduced frequencies are not the way to increase traffic.

Industrial Relations

State recognition and consultation with trade unions has encouraged collective bargaining in nearly every industry. National policies introduced by the Government to increase production in the export field, to halt inflation and stabilise production costs, have thrown a heavy strain on industrial relations since the last war, and the next few years will show whether arbitration machinery will continue in its present form or whether changing conditions in industry and in trade union status will necessitate further changes in legislation.

Strikes and other forms of retaliation by employees will, however, remain with us in spite of a hundred years of progress. We seem as far away as ever in settling disputes without the occasional official or unofficial withdrawal of labour. Whether we shall ever succeed in persuading both sides of industry that joint consultation is the only sensible way to settle disputes remains to be seen, but if our efforts are no more successful than the efforts of nations in trying to stop wars, then it looks as though the settlement of disputes by negotiation, while still an ideal to be strived for, is a very remote possibility.

Under present conditions it would appear that the most effective way of ensuring that employees comply with regulations is to institute some form of incentive bonus related to timekeeping and keeping clear of reports for any kind of misdemeanour, but even this can be expensive. It would have to be added to existing wage rates. It is hardly likely that the unions would agree to wages being based on the quality of service, although if they are as concerned with the welfare of the industry as they claim to be, they would accept the fact that something of this kind was essential in these difficult days. It seems to me that we shall never have the service from our employees we are entitled to expect until men are queueing up for jobs in the industry, not because they cannot get jobs elsewhere, but because they cannot get better jobs elsewhere.

The Future

The evidence all around us points to the fact that road passenger transport is facing the most difficult period in its history. Whether the recession will be temporary depends upon national prosperity. Costs of operation will have to be more rigorously pursued than ever, and labour will continue to go to the highest bidder.

Co-ordination of services between operators has been effected in some areas for nearly 40 years, and agreements of various kinds were accelerated by the Road Traffic Acts, 1930, but can we really say that maximum economies are always achieved where services are operated by conflicting financial interests, and are the interests of the passenger sometimes subordinated to those of the operator?

Far-reaching changes in the status and functions of local authorities are now under review. Five densely populated areas are the subject of special consideration—i.e. Merseyside, Tyneside, West Yorkshire, South-East Lancashire and the West Midlands. Will the opportunity be taken for a further examination of transport services in these "special review" areas which are to be dealt with in the Bill at present before Parliament dealing with local government reorganisation?

* Abstract of a paper to the Public Transport Association conference at Harrogate on May 15.

A SQUIRE IN SWITZERLAND

Small Ford Utility Performs Well

SEVERE WINTRY CONDITIONS ENCOUNTERED

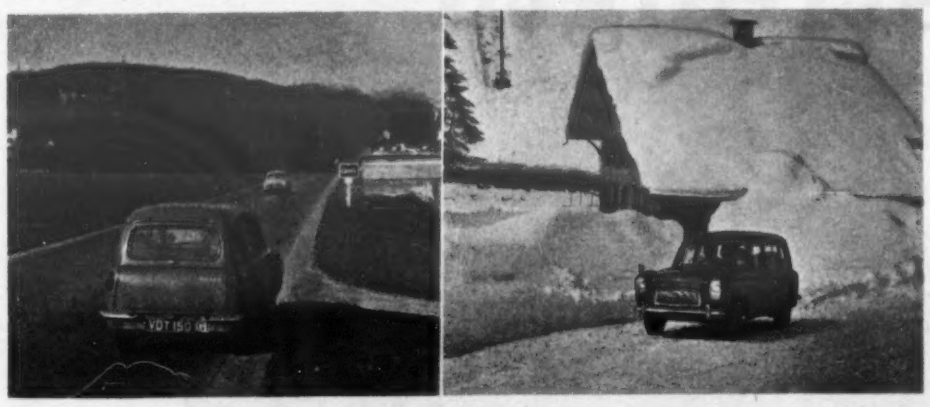
OPPORTUNITY for road testing British vehicles under the more open and generally higher-speed conditions of Continental operation do not often present themselves to us, though when testing light delivery vans and dual-purpose vehicles, we usually contrive to extend our testing over several days so as to be able to include in the report information on performance when used on long-distance work. Opportunity for a full-scale assessment of one of Britain's popular light vehicles under wintry Continental conditions came when our visit to the recent Swiss Motor Show in Geneva, which was to include visits to commercial vehicle-producing plants in various parts of Switzerland, coincided with the availability of a Ford Squire dual-purpose vehicle.

Overlooking Oberreid on Lake Brienz on the journey from Berne to Arbon

Side-Valve Engine

The Squire is based on the Ford Motor Company's Anglia - Prefect car range, which embraces also the Escort utility and the Thames 5-cwt. van. It is powered by the four-cylinder side-valve petrol engine of 1,172-cc. capacity which, with a compression ratio of 7 to 1, produces 36 b.h.p. at 4,500 r.p.m. This drives through a conventional transmission layout comprising a single dryplate clutch, three-speed gearbox with central lever control and synchromesh on the two upper gears and a 4.429 to 1 rear axle. Independent front suspension is Ford-designed, employing long coil springs mounted on special double-acting telescopic dampers. Longitudinal laminated springs and double-acting dampers form the rear suspension. Hydraulically operated brakes provide a lining area of 76.8 sq. in., standard tyres are 5.60-13 six-ply tubed or tubeless and the 12-volt electrical system includes a two-brush generator, 40-amp./hr. battery and oil-filled ignition coil.

The Squire bodywork differs from that of the Escort only in its de luxe trim, which includes additional exterior chromium, sliding intermediate side windows, a temperature gauge, an additional sun visor on the passenger's side and dual windtone horns. The vehicle is of all-steel integral construction with three longitudinal strengthening swages in the roof. The curved one-piece windscreen, winding door windows with opening quarter lights, bodyside windows and large rear window are all of safety glass and provide excellent all-round visibility and good ventilation. A recently redesigned fascia panel covers a full-width parcel shelf, which is enclosed on the Squire by a lockable door. The driver's seat is adjustable fore and aft and the folding rear seat provides reasonable comfort and leg room for two adults, with good luggage space behind. With the rear seat folded, space for a 5-cwt. load is provided on a hinged false floor over the spare wheel and tool space. Rear access is through horizontally divided conveniently operated and lockable tail gates.



Although the Swiss lowlands were largely clear of snow during the second week, as in the picture taken at Lucens, near Fribourg, several hundred miles were covered in conditions similar to those in the picture on the right taken on the Brünig Pass (3,300 ft.)

Cold Start

The Geneva Show opened on March 13 and as we were unable to leave the office until the afternoon of the 11th (too late for cross-Channel aircraft or boat) we had to cross on the night ferry from Dover to Dunkirk, planning to cover the 460 miles to Geneva in one day on the 12th (with only one driver). Hopes during the planning stages that the unusually protracted wintry weather would have retreated northward by mid March were not rewarded and biting winds and the frozen remains of a heavy fall of snow made even the 100-mile evening trip to Dover hazardous, so that we learned early to appreciate the interior heater and, even more important, the Squire's precise and responsive steering that permitted instantaneous correction of incipient skids.

Safely on the boat and in our cabins by 11 p.m., we had no great hopes that conditions would be better on the other side; fears were confirmed when we found four or five inches of fresh snow and freezing temperatures on being hurried unceremoniously off the *St. Germain* (she was chartered to make an extra trip ferrying new cars) by 4.30 a.m. next day. Despite the excusable reluctance of the French Customs officers to turn out on such an inhospitable morning, we were clear of formalities by 5.30 a.m. and were later to be glad of the enforced early start. The road out of Dunkirk to join N37 at Hazebrouck is not easy to follow under good conditions and in darkness, with snow still falling and deep on the roads, progress was slow and stops had occasionally to be made to clear the snow from signposts to verify the route. The coolant temperature remained well below normal and a blanking strip over the radiator grille would have been useful.

Condensation inside the vehicle was heavy and froze into thick opaque deposits on all the glass except two small fan-shaped areas kept clear by the demister vents to the windscreen. To add to our troubles, fog developed shortly after leaving Dunkirk and was thick in patches until soon after a reluctant dawn, a short stop for a second breakfast was made at Péronne at about 9 a.m. Considering the conditions, we felt we had done remarkably well to have covered 90 miles of entirely snow-covered and iced roads in 3¼ hr. Snow remained with us for a further 2 hr., during which the 80 miles to Château Thierry were covered, whereafter the effects of traffic, periods of sunshine and a southerly heading cleared it from main roads fairly quickly and we were able to make better use of the high natural cruising speed of the Squire. In fact, this was probably exceeded for long stretches, for reports of an overnight blizzard in Switzerland and thoughts of the Jura to be crossed, partly after dark, lent weight to the right foot and the 210 miles between Château Thierry and Poligny were covered at an average speed of just over 50 m.p.h.

More Frost And Snow

As anticipated, the Jura foothills approaching Poligny (1,500 ft.) brought frost and snow-bound roads, which again reduced average speed for the final 90 miles to 36 m.p.h. Inquiries at the La Cure Customs post led to the selection of the Fancille Pass (4,300 ft.) down the French side of the frontier rather than the shorter alternative through Col de St. Cergue and Nyon; the advice was good for the snowploughs were completing their work between 20-ft. high banks of snow on the top of the pass even as we went through and we were entering Geneva at 7.30 p.m. In 14 hr. elapsed time we had covered 470 miles at an average speed (driving time 12 hr.) of 39 m.p.h. Fuel consumption for the total of 600 miles covered to that point, with two up and 1½ cwt. of luggage, was just under 33 m.p.g.

We have driven many vehicles of all types; there is none that we would rather have had for this difficult journey and few, even at several times the price, with which it would have been possible in the time with the same degree of mastery on slippery roads and freedom from fatigue after 12 hr. at the wheel. The surefooted Squire retains traction when most others have stopped; on several occasions during the early part of the trip it was sheer pleasure to thread our way daintily and with certainty through stalled vehicles and shovellers on icy gradients and even to restart without great difficulty under similar conditions.

Across Switzerland

With the arrival in Geneva, the Squire's work was by no means done and after three days at the exhibition, course was set for Arbon, on Lake Constance, with calls en route, which took us through Lausanne, Fribourg, Berne, Thun, Interlaken, Lucerne, Rapperswil and St. Gallen to Rorschach. After two days on the shores of Lake Constance, on the second of which there was a further fairly heavy fall of snow, an evening journey to Basle (120 miles) took 3¼ hr. and the 400 miles total running in Switzerland from Geneva to Basle, all with three adults and 2 cwt. of luggage and much of it on snow-covered mountain roads, was covered for a petrol consumption of 31.5 m.p.g.

After a night stop at Basle, one more passenger and an additional 1 cwt. of luggage were taken aboard for the 550-mile return trip to London. The additional load, which now totalled four adults and about 3 cwt. of baggage and brought the gross weight to rather above the recommended maximum, had little effect on performance and even less on the excellent controllability and road holding, though to say there was room to spare inside would be an overstatement. The journey was made at fairly leisurely pace in two days, with a night stop at Soissons, crossing by British Railways afternoon Boulogne—Dover car ferry, in alternate sunshine and snow showers on the second

(*Continued on page 9*)

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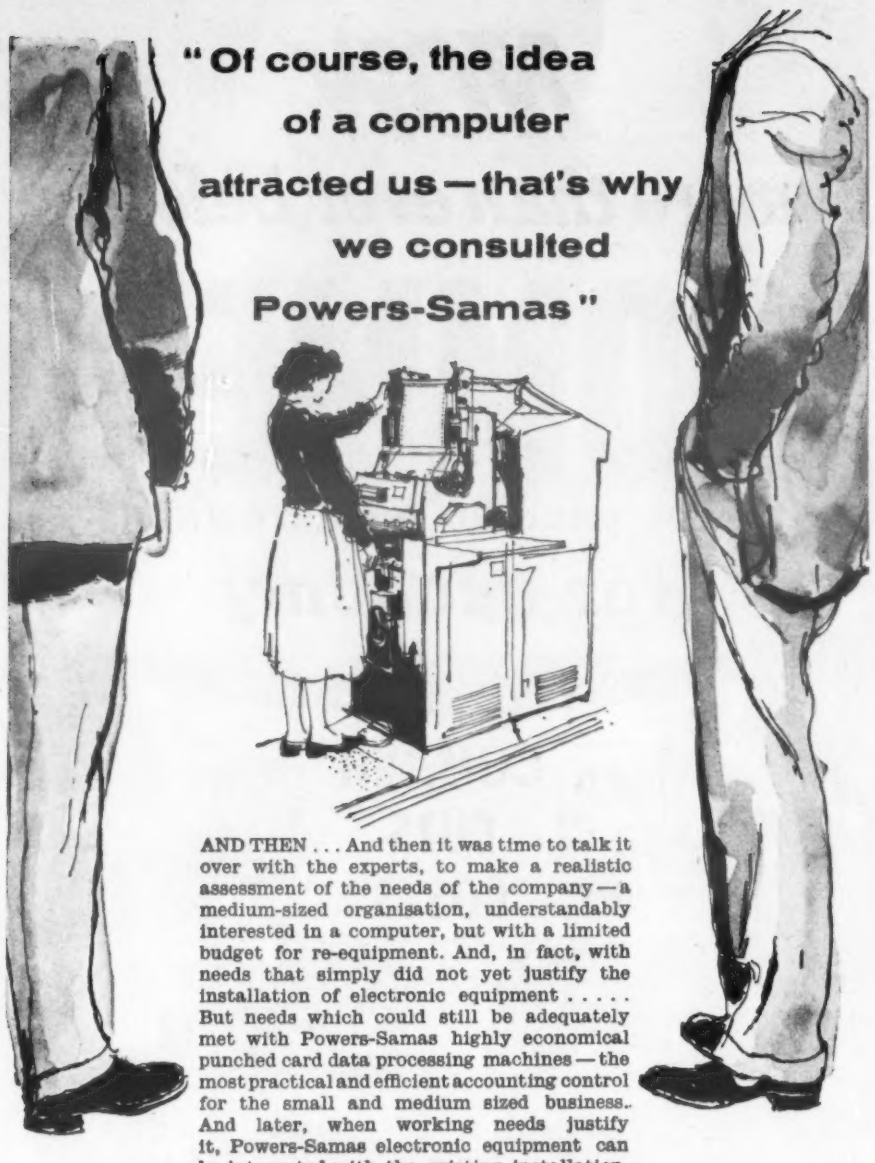

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NEWS FROM ALL QUARTERS

Staggered Shop Hours

From June 2, for an experimental period of four months, shops in central Nottingham will close at 5 p.m. on Mondays and Tuesdays and at 6 p.m. on Wednesdays, Fridays and Saturdays. Thursday early closing will be maintained. This is a measure to assist staggered travel during the evening peak.

Liverpool Tram Goes to U.S.A.

The Liverpool Corporation tramcar No. 293, which was the official last car on the city tramway system when it was finally abandoned last September, was shipped last week to Boston, Massachusetts, en route to the New England traction museum at Kennebunkport in Maine. This is owned by the New England Electric Railway Historical Society, which runs the Seashore Electric Railway. It already has a Blackpool double-deck car.

West German and Netherlands Speed Limits

West Germany and the Netherlands have revised speed limits for motor vehicles. On the open road Germany has no speed limits for passenger cars, but other types of vehicles are limited to top speeds of from 35 to 50 m.p.h. Inside habited areas all vehicles are limited to 30 m.p.h. The Netherlands also limits traffic in populated areas to 30 miles per hour. In open country certain roads have a 45-m.p.h. speed limit for passenger cars. Other vehicles are limited to speeds of 35 to 50 m.p.h.

By-Pass for Lichfield

The Minister of Transport has made a 75 per cent grant to Staffordshire County Council towards the cost, estimated at just under £125,000, of building a 1¼-mile by-pass for the City of Lichfield. The new road will remove a serious bottleneck on A51 by diverting traffic from the centre of Lichfield, where Bird Street, one of the city's main shopping centres, is only 15 ft. wide and the pavement less than 3 ft. It will also help to preserve the character of this famous market town by relieving traffic congestion in the streets which run past the Cathedral and the Minster Pool. The proposed by-pass forms part of the improvement of A51 from Lichfield to Stone.

Haulage on U.S. Waterways

The Bowater Paper Corporation of North America has urged the U.S. House of Representatives Merchant Marine Committee to support legislation which would permit American subsidiaries of foreign-owned firms to haul their own products in their own barges on United States domestic water routes. The British-owned company wants to carry newsprint and other products on inland waterways from its mills in Southern States. A group of Southern Congressmen backed Bowaters plea for approval of the bill to put the British concern on a competitive footing with American-owned paper firms. A spokesman for the Shell Petroleum interests also testified on behalf of the Bowater bill.

Seine Ports Tour

The Railway Correspondence and Travel Society is proposing to use British Railways excursion facilities for a short tour in France, via Southampton, on June 21. It is proposed to visit the S.N.C.F. depot at Le Havre and then travel by special diesel railcar to Rouen, where the depot at Martainville and the depot and works at Sotteville will be inspected.

Control of Port Swettenham

Port Swettenham in Malaya should be made as independent of the Malayan Railway as possible, states the report of a committee led by Sir Eric Millbourn. It also recommends that finances of the port should be separated from those of the railway and that the port should pay a reasonable commercial rate, including a share of the overheads, for all services rendered by the railway. Further efforts should be made to improve the facilities of the port until the extension at North Klang Straits is completed.

New Square for Exeter

The centre of Exeter is being transformed by the realignment of the busy but now awkward road junction at the east end of High Street, where traffic from the direction of Honiton and of Taunton enters the central area. The scheme, including a new and wider Paris Street, is estimated to cost £176,000, towards which the Minister of Transport has made a grant of £132,000. The future Paris Street will swing round in a curve to the south of the present Paris Street, entering the light-controlled junction (to be named Eastgate Square) directly opposite the realigned New North Road.

Channel Tunnel Traffic Studies

The Channel Tunnel study group has signed contracts with three economic research organisations to begin detailed traffic surveys of the prospects and feasibility of a rail and/or road tunnel under the Channel. The study group, which was established in July, 1957, comprises the British Channel Tunnel Company, the French Channel Tunnel Company, and the International Road Federation, Paris office, the Suez Canal Company, and an American group represented by Technical Studies, Incorporated. Preliminary geological and geophysical surveys will be undertaken by British, American and French contractors for the study group.

Ceylon Railway Loses Heavily

Increased cost of coal and working expenses have accounted for a net loss in the working of the Ceylon Government Railway of Rs.15,101,000 during the year ended September 30, 1957. The total loss, when interest on annuities is taken into conideration, is some Rs.25 million. This is revealed in the report of the general manager, Mr. B. D. Rampala. Railway authorities have estimated that this year the loss will go up by about Rs.8 million as a result of the government decision to pay higher allowances to public servants and the normal annual increases on salaries and wages. The recent floods also accounted for a loss of revenue of about Rs.4 million early this year.

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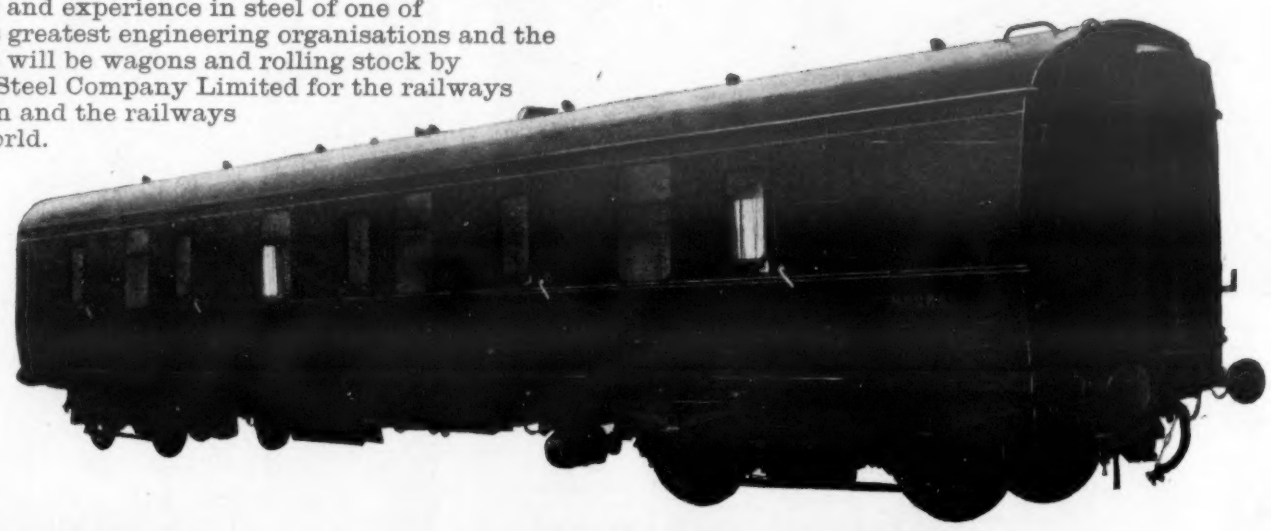

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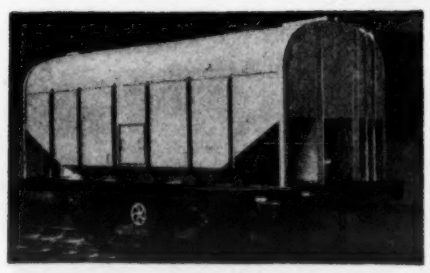
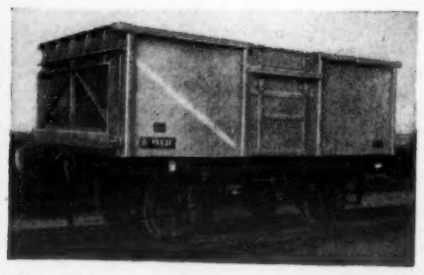


20-ton capacity Bulk Grain Van to the order of British Railways.



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COMMERCIAL AVIATION

Irish Airports

NEW AIRCRAFT FOR ETHIOPIAN

WORK on the construction of an airport for Cork will begin early next year, and by the late summer of 1960 it should be possible to fly to and from the city. The Eireann Department of Industry and Commerce, which is responsible for civil aviation, is engaged in plans to acquire the 500 acres which will be needed for the Cork project. Tenders have been invited for the construction of Shannon's jet runway. The plans have been completed and there will be no delay in getting the work started, as the 10,000-ft. runway has to be ready by 1960. Last year Shannon had an operating profit of £111,301. The number of aircraft landings there rose from 8,208 in 1954 to 10,535 in 1955 and 11,237 in 1956. It dropped slightly to 10,616 last year because of the larger sizes of aircraft being used. The number of passengers using the airport has also gone up every year. In 1954 it was 304,540. Last year's total was 443,558. The rise in the total of freight and mail loaded or unloaded was from 9,517 tons in 1954 to 13,130 tons last year. The numbers of aircraft and passengers at Dublin Airport last year were similar to the Shannon figures—10,825 aircraft in Dublin, compared with 10,616 in Shannon; and 494,473 passengers, compared with Shannon's 443,558. Receipts for 1957 came to £163,388, but expenditure reached £240,292.

Malaya Joins I.C.A.O.

The Federation of Malaya became the 72nd member state of the International Civil Aviation Organisation on May 7, 30 days after its instrument of adherence to the Convention on International Civil Aviation was deposited.

T.W.A. Claims New Record

A Trans World Airlines Super-Constellation air liner has, it is claimed, established a new world Polar flight record by flying nonstop from London to San Francisco, via the Arctic, in 17 hr. 29 min. The aircraft, which left London Airport on Wednesday evening, May 7, and arrived at San Francisco on May 8 after flying 5,400 miles, carried 19 passengers and a crew of nine. This new record reduced the westbound crossing time from Britain to California to within only 15 min. of the eastbound record Polar flight time from California to London, which stands at 17 hr. 14 min., also by one of the T.W.A. fleet.

First DC6B for Ethiopia

Ethiopian Airlines first Douglas DC6B recently passed through Athens on a delivery flight from Santa Monica, California, to Addis Ababa. Mr. Victor H. Harrell, Jr., general manager of Ethiopian Airlines, was aboard the aircraft. He said that this was the first of three new DC6Bs for the airline and will provide greatly increased service between Europe and East African cities. A specially appointed stateroom and executive suite had been built for the exclusive use of the Emperor Haile Selassie which could be installed in any one of the planes for trips of state. The airline is managed and operated by Trans World Airlines under contract with the Imperial Ethiopian Government and was officially created in December, 1945. Regular international flights began in April, 1946.

More B.K.S. Services?

B.K.S. Air Transport is planning to operate two internal services from Woolsington Airport, Newcastle upon Tyne, by the end of this month. There would be a daily return flight to London at a proposed fare of £8 15s. return and a thrice-weekly one to Edinburgh at a proposed return fare of £3 10s.

Electra De-Icing Tests

The latest phase of the Lockheed Electra's flight-test programme, the checking of its anti-icing and de-icing equipment, was completed with great success, it has been announced by Lockheed. The programme included 44 flights logging 144 flying hours. Ideal icing conditions were found in the Anchorage, Alaska, area, where, flying through large cumulus clouds, the Electra wing and empennage leading edges gathered 3½ in. of ice. Utilising hot air from the turbine engines the thermal de-icing system completely cleared the ice within 8 to 13 sec., Lockheed officials reported. Automatically controlled to maintain optimum skin surface temperatures, the bleed-air stream is directed against the inside of the leading edges through pipes in the hot-air manifold.

Lufthansa-B.E.A. Freighter Pool

From May 19 British European Airways and Lufthansa will combine to provide 11 all-cargo services weekly between London and Düsseldorf, Frankfurt and Stuttgart. The services will be operated by a German Vickers Viking double-door all-cargo aircraft with a payload of 3,200 kg. and a B.E.A. Leopard freighter. There will be direct connections with Lufthansa services to all other German destinations as well as to the Middle East and South America.

U.S. Airline Income Drops

United States airlines earned a record of $2,000 million (£714,285,700) last year, but their profits were down to $42 million (£15 million), the Air Transport Association reported last week. The Association said the profit return, because of mounting operating costs, was the lowest since 1950. It forecast a profit margin for this year of 2.61 per cent—"a long way down from the 4.6 per cent of 1956 or the 7 per cent of 1952." The airlines are seeking fare increases ranging from 12 to 17 per cent. Early this year the Civil Aeronautics Board granted an emergency increase of 4 per cent, plus a dollar (7s. 2d.) service charge per ticket. The A.T.A. said 1957 was a record-breaking year in terms of traffic, with a total of 31,243,000,000 passenger-miles, 160,689,000 tons of mail and 507,678,000 ton-miles of freight.

Developments in New Zealand

In the year ended March 31 the New Zealand National Airways Corporation reached for the first time the half-million mark in passenger traffic. The figure was 508,000, compared with 473,700 the previous year. The number of weekday passengers on the Auckland to Christchurch service increased by 40 per cent in the first two months' operation of its Viscount aircraft. Record freight figures were also reached, the total of over 11,000 tons being an increase of 13 per cent on the previous year's figures. Auckland is to engage an American airport management consultant, Mr. Leigh Fisher, to undertake a preliminary survey for the construction of an international airport. The decision was made when 17 Auckland mayors met to discuss the airport after hearing the Minister in charge of Civil Aviation, Mr. J. Mathison, speak on the subject.

PRESIDING AT HARROGATE

Mr. T. ROBERT WILLIAMS, M.A., LL.B., M.Inst.T.

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Presiding this week at the annual conference of the Public Transport Association at Harrogate, Mr. Thomas Robert Williams, who was, last year, elected chairman of the P.T.A., is a member of the British Electric Traction executive staff. Educated at Dynevor School, Swansea, and Downing College, Cambridge, he qualified as a solicitor in 1930, being first in 1st Class Honours and taking the John Mackrell and Clements Inn prizes. He is an LL.B. of London University with 1st Class Honours and the University Scholarship, and an M.A. of Cambridge where he took a first in the Law Tripos. After a period as assistant solicitor to the Great Ouse Catchment Board, and later to the Unilever company, Mr. Williams was appointed assistant to the managing director of Ribble Motor Services, Limited, Preston, in 1935. From 1940 to 1945 he served with Royal Air Force Coastal Command and was mentioned in dispatches. In 1946 he came to London as a member of the B.E.T. executive staff and is now chairman of Aldershot and District Traction Co., Limited, Canadian Motorways, Limited, and its subsidiaries, and North Western Road Car Co., Limited, managing director of Rhondda Transport Co., Limited, and a director of a number of other transport companies, including Lisbon Electric Tramways, Limited. He is a past chairman of the National Council for the Omnibus Industry and the Conference of Omnibus Companies. He is a member of the Institute of Transport and presented a most original paper on the future of road passenger transport at its congress in Southport in 1956.

IN PARLIAMENT

Consent Procedure Maintained

REPORT NOT PUBLISHED

DURING the recommital stage of the Local Government Bill on May 6, MR. J. R. BEVINS, Parliamentary Secretary, Ministry of Housing and Local Government, introduced an amendment to clause 37 so that where the area of a local authority is extended, that extension in itself will not extend the running area of any public service transport undertaking. The question of that area would be left, as in the past, to the decision of the Traffic Commissioners. A requirement to this effect will be included in any Order which is made under the Bill where there is an extension of a local authority boundary. MR. G. R. MITCHISON asked why the Government was not following the recommendation of the Thesiger Committee on sections 101 and 102 of the Road Traffic Act, 1930, that these provisions should be discontinued.

Mr. Bevins said these recommendations of the Thesiger Committee were rather controversial. The Bill followed well-established precedents. The Thesiger Committee recommended the abolition of the requirement in section 101 of the Road Traffic Act, for local authorities to obtain the Traffic Commissioners' consent before running public service vehicles outside their areas. They took the view that the consent procedure was unnecessary because local authorities still had to obtain road service licences before they could run bus services. But private operators set great store by the consent procedure, which they regarded as an additional obstacle for local authorities to overcome. They could petition Parliament and secure amendments in committee to the Private Bill concerned if they so wished. The Bill preserved the present requirement in cases where the boundary of a local authority was extended.

Unloading Report Not Published

MR. ERNEST DAVIES asked the Minister of Transport whether, in view of the statement by the London and Home Counties Traffic Advisory Committee that the public inquiry into proposals for the prohibition of loading and unloading in London constituted a useful addition to knowledge on London traffic problems, he would arrange for the general publication of the report. MR. H. WATKINSON replied that the report of the public inquiry had already been made available to interested persons and organisations and copies had been placed in the libraries of both Houses. He would be glad on request to make further copies available to those concerned, but doubted if general publication was warranted.

Deterioration of Grain Sacks

SIR A. BOSSOM asked the Minister of Agriculture to direct his agricultural publicity service to draw farmers' attention to the risk of damage to railway-owned grain sacks by leaving them on the fields to dry the contents after combine havesting, and the increase in hire charges this practice leads to. MR. JOHN HARE said this was a matter which could be left to British Railways. He did not think the practice referred to was widespread.

Manufacturers Take Most of the Cuts

Replying to an adjournment debate on employment at railway works, MR. G. R. H. NUGENT said that the British Transport Commission was giving every consideration to its own workshops and was keeping their capacity filled. Any cuts it has had to make as a result of the reduction in authorised capital expenditure it had met by throwing most of the locomotive cancellations on to private industry. Representatives of some of the private firms concerned had complained that they had been forced to carry more than their share of the cut, but they had accepted that it had to be so. They also made a point about the difficulty of private firms sustaining exports on the extremely narrow base of only a small part of the home market.

Successful development of a new fireproof flexible metallic hose, which meets the stringent requirements of the British Air Registration Board and the American Civil Aeronautics Authority and which is designed to ensure absolute reliability of fire extinguisher systems in civil and military aircraft, is announced by Power Auxiliaries, Limited, Swindon. It is claimed that the new hose will result in a considerable saving in operating costs as the frequent replacements associated with existing types of hoses will no longer be necessary.

Midland Silicones, Limited, has made arrangements for the distribution of silicone electrical insulating compound MS 4 throughout Scotland by R. D. Taylor and Co., Limited, 9 Lynedock Street, Glasgow, C.2. A smooth silicone grease with the consistency of petroleum jelly which it retains at temperatures between minus 50 and plus 200 deg. C., MS 4 has excellent dielectric properties and high water-repellency. Used today by many airlines and on military vehicles, the compound has very many uses in the electronic and electrical fields, especially for maintenance purposes.

★

SQUIRE IN SWITZERLAND

(*Continued from page 7*)

day that persisted across the Channel and into London. In 11 days, we had covered a total of 1,630 miles for an average fuel consumption of 32.2 m.p.g. of standard-grade petrol—on the Continent we had opted for B.P. or Shell rather than an unknown "local brew." The sump required topping up twice, taking an equivalent of 1¼ pt. altogether.

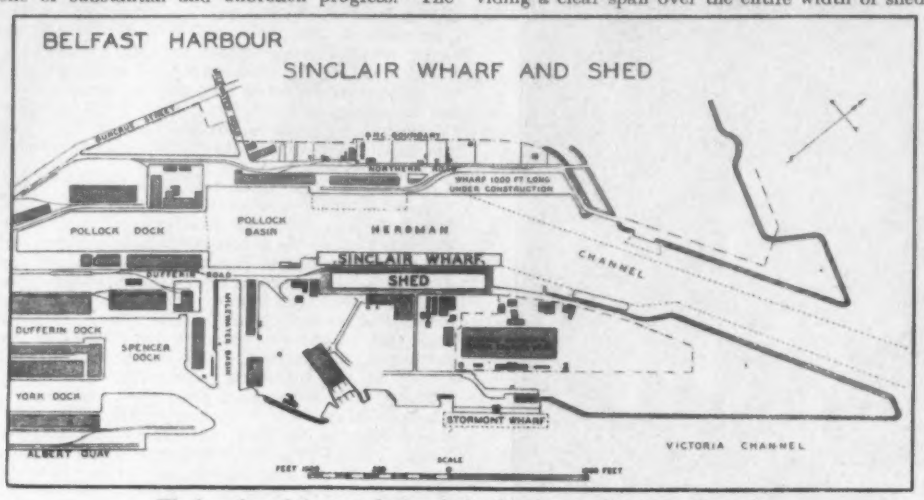
Principal impressions of the Squire are its outstanding stability on all kinds of surface right up to the limits of its performance and the willingness and freedom from fussiness of its long-stroke engine, which was restful to sit behind during long spells of hard driving and appeared to be quite unaffected by such altitude as we attained. Occasionally we would have welcomed an additional intermediate gear, particularly on long up-grades just too steep for top, but with recorded speeds up to 50 m.p.h. in second (at the price of a little valve bounce above about 47 m.p.h.) the need was not really urgent, and occasionally we cursed the sluggishness or complete stopping of the vacuum-operated windscreen wipers when the throttle was opened wide. The touring spares pack containing a top-gasket set, moulded water joints, fan belt and electrical parts was unused, though the spare top water joint made a useful funnel through which petrol from the spare can could be poured into a tank filler spout which is otherwise quite inaccessible for transfer from a can.

BELFAST PORT FACILITIES

Addition of Sinclair Wharf and Shed

NAMED AND OPENED BY QUEEN MOTHER

DURING the period since 1847, when the Belfast Harbour Commissioners became the statutory body responsible for the affairs of Belfast Harbour, the history of the port has been one of substantial and unbroken progress. The advance has been no less marked in recent years than in the earlier days. It was therefore imperative that, although important additions were made to the berth and shed accommodation during the 1939-45 war, further dock development should be considered so soon afterwards.



The location of the new shed and wharf beside the Herdman Channel

With the advent of new industries into Northern Ireland, expansion of established industries, and the trend in mechanisation of cargo handling, the Commissioners decided in May, 1955, that the time was appropriate for the construction of more berths and further sheds for the use of vessels from foreign ports. Powers to carry out such work had been obtained in the Belfast Harbour Act, 1950, and work was commenced in October, 1955.

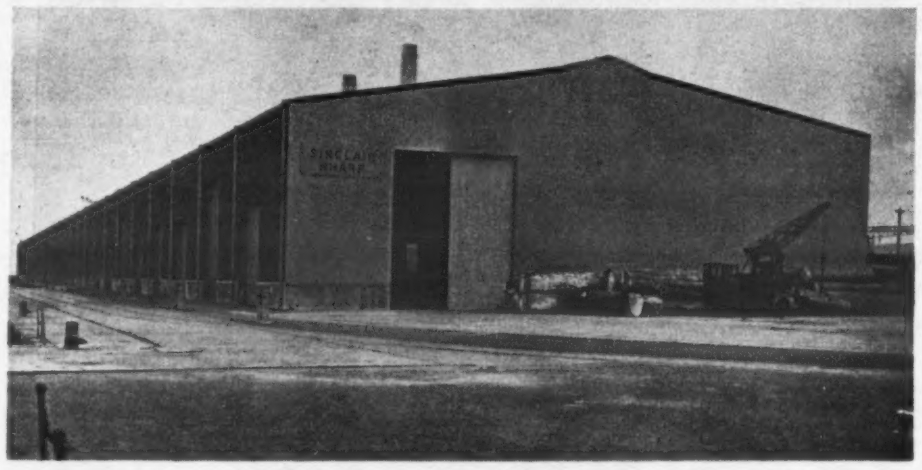
The scheme now completed was formally opened and named on May 9 by H.M. Queen Elizabeth the Queen Mother. It comprises a wharf 1,241 ft. in length, with a depth of 30 ft. at ordinary low water and 38 ft. 6 in. at ordinary high water. Provision has been made for the eventual deepening of the berth by a further 5 ft. Including a "knuckle" at the south end of the wharf, the total quayage provided is 1,495 ft. The deck is of reinforced concrete flat slab construction, carried on reinforced concrete and steel box piles. The wharf contractor was Charles Brand and Son, Limited, London.

On this wharf an immense transit shed has been built, measuring 1,100 ft. long and 120 ft. wide, with a clear inside working height of 29 ft. 9 in., giving a floor area of 132,000 sq. ft. The shed has been specially designed to facilitate the operation of mechanical cargo handling equipment, and is of steel construction with lattice roof principals, providing a clear span over the entire width of shed. It is roofed in aluminium. Side and gable cladding consists of concrete dwarf walls and protected metal. Approximately 15,000 tons of bagged goods or 10,000 tons of general cargo can be accommodated in the shed. The contractor for the steelwork, cladding, etc., of the shed was Harland and Wolff, Limited, Belfast. The necessary civil engineering work was carried out by the Commissioners' staff. Dredging of the berth and approaches was undertaken by the Commissioners' dredging plant. Road and rail access is provided, and at the rear of the shed an area of 46,500 sq. ft. is available for open storage.

The wharf and shed are named in honour of the present chairman of the board, Sir Kenneth Sinclair, D.L. They will greatly supplement the accommodation in the port for foreign-going ships. The cost of the work is approximately £1 million, part of which has been borne by the Government of Northern Ireland. The work was carried out under the direction of the Commissioners' harbour engineer, Major J. H. A. Patton, M.B.E., M.C., T.D., M.A., M.A.I., M.I.C.E., until December, 1956, and Mr. J. McF. Neill, M.Sc., M.I.C.E., M.I.Struct.E., thereafter. The resident engineer throughout the work was Mr. R. J. N. Sweetnam, M.A., M.A.I., A.M.I.C.E.

In 1957 Belfast dealt with 11,600,000 net register tons of shipping in and out; imports and exports totalled 4,898,000 tons and the revenue of the port was £989,000. The total area of the B.H.C. territory is 2,474 acres, of which 638 acres is in Co. Antrim and the remainder in Co. Down. The water area is 960 acres, there are 7 miles of quays, 13 miles of roadway, 15 miles of railway and 26 acres of floor area in the dockside sheds.

Presentations of the Commissioners and officers were made to the Queen Mother, who was accompanied by Lord Wakehurst, Governor of Northern Ireland, and after features of wharf and shed had been pointed out to her, a bouquet was presented by Miss E. Ann Ingram, granddaughter of the chairman. Sir Kenneth Sinclair then invited the Queen Mother to name the wharf and shed and declare it open. In reply Her Majesty referred to the importance of the port of Belfast to the trade of Northern Ireland, the products of which had long been respected throughout the world. Never had that been more true than today. It was particularly fitting that Sir Kenneth's great personal contribution to the development of the undertaking should receive lasting recognition.



The new Sinclair wharf and shed at Belfast

ELECTRIC VEHICLES

New Officers for E.V.A.

ELECTRIC vehicles in use on the roads of Great Britain and Northern Ireland at the end of 1957 numbered 23,868 driver-seated vehicles and 10,984 pedestrian-controlled vehicles —a total of 34,852. These figures were given in the annual report of the Electric Vehicle Association of Great Britain presented to the Association's annual meeting on May 8.

Sir Wavell Wakefield, M.P., was elected president for the fifth year in succession. The new chairman is Mr. J. H. Cansdale, of the British Thomson-Houston Co., Limited; vice-chairman, Mr. E. Powell, of the Chloride Electrical Storage Co., Limited; and hon. treasurer, Mr. H. E. M. Bull, of S.E.V. (Sales and Services), Limited, Gateshead-on-Tyne. Secretary is Mr. J. I. Bernard, director and secretary, E.D.A., and the deputy secretary Mr. R. D. Reynolds, E.D.A.

Increased Interest

The report stated that in the early part of the year the problems of fuel rationing caused by the Suez crisis, and the difficulties which ensued for traders in the delivery of goods, resulted in increased interest being taken by transport users in the merits of the electric vehicle. As a result of negotiations with the Ministry of Transport on the subject of L drivers of electric vehicles, new regulations came into force on October 1, 1957, under which the holder of a provisional licence, driving an electrically propelled goods vehicle up to 16 cwt. unladen weight, not constructed to carry more than one person, need not be accompanied by a qualified driver. New registrations during 1957 totalled 2,817, of which the largest class was the 1- to 1½-ton (unladen weight) type, 585; there were 482 in the 16-cwt. to 1-ton class, and 459 in the 12- to 16-cwt. class. In addition there were 184 pedestrian-controlled vehicles and 443 invalid vehicles.

Private Progress

Mr. J. A. Lowe (Westinghouse Brake and Signal Co., Limited), chairman of E.V.A., said the Association was very proud of the progress that had been made in furthering the cause of electric vehicles. This progress would not have been possible without the assistance and co-operation of the user organisations in the retail distributing trades. "If private traders and trading organisations find electric vehicles an economical proposition, why not some of our nationalised bodies whose delivery problems are not dissimilar?" asked Mr. Lowe.

They were a very tolerant, and optimistic, industry in that they felt sure that the growth by 2,000 electric vehicles a year would be greatly accelerated by their adoption in large numbers by the nationalised industries. Over the past few years they had seen encouraging signs from the British Transport Commission and the Post Office. They felt sure, also, that the various Electricity Boards would extend their use of electric vehicles. These bodies could not, for long, fail to recognise the many advantages to be gained by the use of battery electric vehicles for all local delivery work. Such outstanding features as low running costs, freedom from imported fuel, lack of fumes, low maintenance and many other advantages must make their mark.

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PUBLIC SERVICE VEHICLE MAINTENANCE

Some Important Developments

By J. E. HOLLANDS, A.M.I.Mech.E., A.M.Inst.T., Chief Engineer, North Western Road Car Co., Ltd.*

WITH the constant rise in costs, and the refusal of successive Governments to remove the tax on diesel fuel, it is not surprising that most of the important developments affecting public service vehicles over the past 10 years have been concerned with reducing the cost of maintenance and vehicle operation. In fact, the progress made has been most impressive, and shows that, whilst the chassis and body manufacturers have made advances in many directions, the operating undertakings have also been constantly searching for and developing new ideas.

Much work, however, has still to be done and many more developments must ensue to ensure that the greatest possible use is made of rolling stock and that the minimum effort is involved in keeping it in the most efficient condition. Whilst the opportunity might well have been taken in this paper to range over a wide field, it was in fact decided at an early stage that it would be of greater interest if the contents were restricted to those matters which were considered to be of the most importance and at the same time were of a somewhat controversial nature.

Automatic Servicing

It is generally accepted that many of the problems associated with the maintenance of public service vehicles and a fair proportion of the cost is incurred in providing daily, nightly and periodic services for refuelling, engine lubricating oil topping up, greasing and radiator water replenishment. Apart from the direct cost of labour employed in carrying out these functions, great difficulty is often experienced in finding sufficient staff to do the work, and, furthermore, with the exception of refuelling, there is the very serious question of damage resulting to vehicles through the inefficiency of staff or through sickness, resulting in these essential jobs not being done properly or not being carried out as often as they should.

So far as the direct labour employed on these operations is concerned, it is comparatively simple to calculate the cost involved, and, for an average kind of undertaking, the position will be approximately as follows:

	Per car mile
1. *Refuelling*	
(a) Say, 2 min. per driver per night ..	0.012d.
(b) Staff employed on refuelling vehicles	0.036d.
2. *Greasing and Engine Oil Topping Up* Staff employed on this work	0.084d.
3. *Radiator Water Topping Up* Say, 5 min. per driver at the commencement of morning duties being a proportion of the signing-on allowance ..	0.030½d.
Total ..	0.162½d.

This is equivalent to an expenditure of £16,240 per year for an undertaking operating 500 buses at an annual average of 48,000 miles per vehicle. The direct expenditure on this aspect of vehicle maintenance is, therefore, very high and the position is further aggravated by the fact that with refuelling, greasing and engine oil topping up, much of the time spent by employees carrying out this work is non-productive.

Chassis Greasing

The problem of chassis greasing can be satisfactorily dealt with by the use of automatic lubricator units. These have now been available for a number of years, and they would appear to be satisfactory as they are accepted as standard equipment on a fair proportion of public service vehicles at present being produced in this country.

With the present types of chassis, their initial cost, including fitting to the chassis, amounts to about £90, and over, say, a 12-year life, the cost per vehicle, therefore, works out at only 0.037d. per car mile. With the introduction of air suspension, and the consequent reduction in the number of points on the vehicle which require lubrication, the units will naturally be simplified and their cost correspondingly less.

Engine Oil

It is apparent that although much effort is being made in other directions to improve engine life and reliability, the important function of ensuring that the proper level of clean oil is kept in the sump has not, in the majority of undertakings, received the attention which it should. The solution to the whole of this problem lies in the design of a suitable automatic engine oil topping up device, and such a unit has in fact now been developed which works in an entirely satisfactory manner. Apart from eliminating the costly process of topping up nightly, it has the added advantages of ensuring that only the exact amount of oil which is necessary is kept in the sump, and, as the oil can be pumped directly into an easily accessible header tank, waste and the ingress of dirt are avoided. The chances of engine failures too are almost eliminated, as the possibility of the sump oil getting too low is reduced to a minimum.

The unit is simple and consists of a header tank fitted to the chassis or body and as near as possible to the engine. The tank has a sight glass so that the oil level can be easily seen, and from the bottom of the tank a pipe runs to a simple float chamber fitted alongside the engine sump, the float chamber in turn being piped to the sump itself. The maximum possible cost of an automatic engine oil topping up device will be about £11, which only amounts to .004d. per car mile over, say, a 12-year life, and, like the automatic chassis lubricator, maintenance costs for the unit itself will be practically non-existent. On the other hand, tests with these units have shown that their use has the direct result of improving engine oil consumption because overfilling is completely eliminated; in fact the oil can be kept at the most economic level in the sump.

The existing methods by which vehicles are refuelled are well known, and it is regretted that no automatic means of carrying out the operation has yet been devised. Nevertheless, the problems of automatic greasing and engine oil topping up were solved, and although these may have been simpler, there seems no reason why the dispensing of fuel oil could not be dealt with. It is difficult to assess the cost of installing a device, but even if it amounted to £30 per vehicle, including the expenditure on the automatic fuelling station, it would be equivalent to only .012d. per car mile spread over, say, 12 years.

An automatic means of topping up radiator water cannot be suggested, but in fact the problem can be solved by the elimination of cooling water altogether. The matter is dealt with adequately under the next heading of this paper, but, if in the meantime the feasibility of this idea is accepted then the costs associated with the servicing of vehicles fitted with the automatic devices suggested will be reduced to the following amounts:

	Per car mile
1. *Refuelling*	
(a) 2 min. per driver per night	0.012d.
(b) Cost of automatic refuelling plant over 12-year life	0.012d.
2. *Greasing and Engine Oil Topping Up* Cost of automatic greasing and oil topping up devices over 12-year life	0.041d.
3. *Radiator Water Topping Up*	Nil
TOTAL ..	0.065d.

Mr. J. E. Hollands

If the table at the beginning of this section is referred to, it will be seen that, with automatic servicing methods and the elimination of engine cooling water, savings totalling 0.0974d. per car mile can be achieved. For the 500-bus undertaking, this could be as much as £9,000 per year, and this is only the minimum saving, for, to this figure must be added the reduction in costs resulting from improved life of chassis parts and the reduction in engine failures.

Air-Cooled Diesel Engines

The following list of advantages of air cooled diesel engines is impressive, and provides many good reasons why the passenger vehicle manufacturers in this country should give the matter careful consideration, for they have been confirmed by actual operators of such power units:

1. The design of the engine is simplified because the water cooling system with all its accessories is eliminated.
2. Greater operating efficiency is achieved, for with air cooling the most efficient engine operating temperatures are quickly reached, and, furthermore, engines start more easily.
3. Cylinder bore wear is reduced because of the short period of time to reach the most efficient operating temperature. This improvement in bore wear can be particularly pronounced where high sulphur content fuels are used, because, if cylinder wall temperatures are too low, oxides of sulphur, which derive from combustion, condense to form acids which attack the cylinder walls.
4. As there is no water which is liable to freeze, there is no possibility of cracked or damaged cylinder blocks, cylinder heads, radiators, water pumps or other accessories associated with a water-cooled engine.
5. There is no water to drain from engines and radiators when vehicles have to be left out in the open during freezing weather.
6. No heating or draught-proofing of garages is necessary, and in fact, so far as the engine is concerned, there is no need for covered accommodation at all.
7. The high cost of topping up radiators each day is eliminated, as are the engine failures which result from this job not being carried out.
8. There is no necessity for expensive anti-freeze solution to be used during winter months.
9. There is no possibility of clogged pipes and choked radiators resulting from scale deposits forming.
10. The possibility of leaks from radiators, water pumps or pipes is eliminated.
11. There is no water to penetrate into cylinders and crankcases, and, therefore, the damage which is experienced in water cooled engines when this happens is completely eliminated.
12. There is no possibility of water evaporating when driving in mountainous regions, such as can be experienced by coaches on Continental tours.
13. As the maximum operating temperature is quickly reached regardless of weather conditions, there is less difference in fuel consumption between winter and summer operation.
14. Troubles associated with cylinder head gasket failures are practically eliminated because the gasket is simplified with the elimination of water transfer holes.
15. In order to provide the maximum flow of air around the cylinder blocks and cylinder heads, these are usually formed as individual units in air cooled engines, with the result that their removal and replacement is easy, and, therefore, repair work is simplified.

So far as the use of air cooled diesel engines in public service vehicles in this country is concerned, one of the drawbacks is that this type of engine tends to be more noisy because of the absence of a water jacket and because of noise emanating from the fan. Such noises are not excessive, however, and can be reduced by the use of a suitable insulation shield around the engine.

Another difficulty which would have to be overcome is the provision of interior heating for buses and coaches. With an air cooled engine it is obviously undesirable to pass the engine cooling air direct into the vehicle saloon, as it tends to become contaminated with oil and exhaust fumes, but the development of a suitable air to air heat exchanger is a possible solution. The standard of interior saloon heating on many present day water cooled engined vehicles is far from satisfactory in any case, and an alternative system, using waste engine heat is urgently required. The development of a suitable air cooled diesel engine for passenger vehicle operation in this country is bound to result in some difficulties and problems arising, but these should only be related to detail.

Vehicle Suspension

From the maintenance engineer's point of view, the leaf spring form of suspension which has been fitted as standard equipment to public service vehicles for so many years has proved to be a considerable nuisance, for the useful life of leaf springs is comparatively short and unpredictable, and considerable expenditure is incurred in changing and reconditioning them.

In fact, it is worth recalling the paper presented by Mr. D. M. Sinclair at the Passenger Transport

(*Continued on page 12*)

* Abstract of a paper to the Public Transport Association conference at Harrogate on May 15.

Results of Experience

Operators who are using passenger vehicles of integral construction, and whose experience covers many countries and every service condition, give reasons for their preference. They state that these coaches give

(*a*) lower operating expenditure
(*b*) lower maintenance costs
(*c*) greater operating safety.

The Leyland M-C-W Olympic is the most widely used passenger service vehicle employing integral construction. Improvements incorporated in the Olympic Series II are therefore based on unparalleled experience of this type of vehicle. In the Series II the basic design remains unchanged, but structural modifications have been made to enable the framework to withstand exceptional overload conditions. Also, the latest Leyland "Worldmaster" running units—including the 150 b.h.p. oil engine and the Pneumo-Cyclic semi-automatic gearbox giving two-pedal control—are now incorporated.

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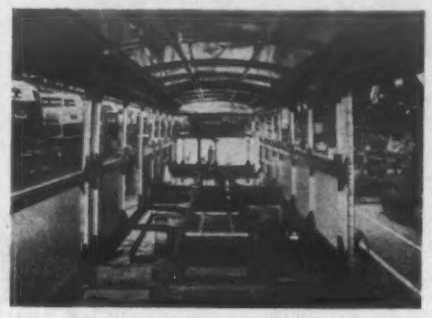
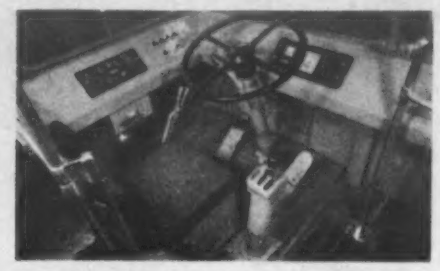


The metal construction forms a deep box section, with longitudinals and cross members of great depth, and additional reinforcement over door openings.



The driver's compartment is spacious and is planned for maximum visibility. The photograph shows the two-pedal control and fingertip gear change.

Leyland M-C-W Olympic with 150 b.h.p. oil engine.

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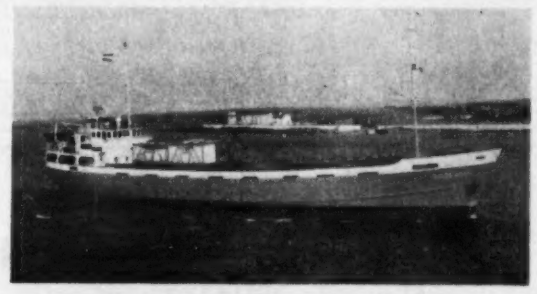

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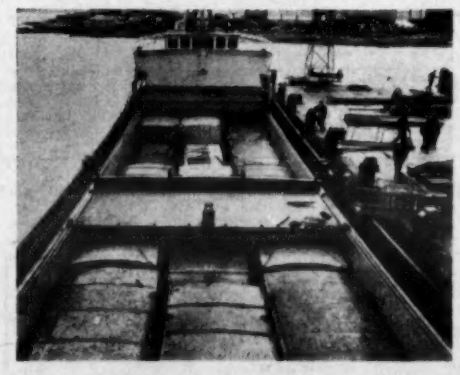

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TRAILERS FOR CONTINENTAL FERRY SERVICE

Bedford Fifth-Wheel Tractors

FOUR Bedford 7-ton tractor units and six B.T.C. 12-14-ton semi-trailers are going to augment the fleet of Continental Ferry Trailers, Limited, of Barking, which operates unaccompanied trailers across the Tilbury—Antwerp drive-on-drive-off ferry to Continental destinations anywhere from Denmark to the Adriatic. An article in MODERN TRANSPORT of December 7, 1957, described these operations. Continental Ferry Trailers is a Transport Development Group company and is under the immediate control of I. Leftley, Limited, also in Barking. The trailer services are run jointly with H. W. König, of Rotterdam, which supplies tractors for the Continental portion of the journey.

The Bedford-B.T.C. articulated 12-14-ton vehicle with B.T.C.-S.A.E. fifth wheel attachment

The tractor units are Bedford 7-ton tipper chassis modified by Spurling Motor Bodies, Limited, in order to accept the B.T.C.-S.A.E. fifth-wheel attachment. The wheelbase has been reduced to 96 in. and the turning circle reduced to 32 ft. The Leyland 0350 diesel engine and Bedford five-speed gearbox are fitted. In this way the tipper chassis has been made the basis of a 12-14-ton vehicle, the semi-trailer portion of which is the B.T.C. W1107 model, 24 ft. long and 7 ft. 6 in. wide. The operator already has in service some 26-ft. long B.T.C. trailers; these are hauled by Atkinson tractors. The B.T.C.-S.A.E. fifth-wheel coupling pivots on a large diameter cross shaft mounted on spring-loaded trunnions to absorb starting, stopping and over-run strains.

Braking Equipment

Michelin C20 ZZ Metallic tyres are fitted to the Four-in-Line rear axle assembly of the semi-trailer; the tractor wheels are equipped with 8.25-20 14-ply tyres. When the trailer is loaded to 14 tons it is estimated that about seven tons is transmitted via the fifth-wheel king pin. Standard Bedford braking equipment is retained on the tractor unit, but provision has been made for inverted line vacuum braking on the trailer by fitting a reaction valve in the system. The semi-trailer is also fitted to work with tractors using the Westinghouse twin line air-pressure brake. The four Bedford units, which are slightly smaller than the Atkinson 17-ton articulated vehicles already referred to, will make the service a more flexible one.

With the delivery of these four tractors and six semi-trailers and other orders, Continental Ferry Trailers expects to have available 32 trailers in all, roughly half in its own fleet, the other half operated by König. Included in this total are three covered vehicles complying with T.I.R. carnet requirements and a number of low-loaders for machinery and indivisible loads.

The company reports that interest in the service is developing steadily, not only for full loads but for small lots also, and in many cases trial runs are quickly followed by a steady programme of deliveries. This is noticeably the case where the Continental consignee has expressed his pleasure in receiving his consignment with unexpected speed. A move towards wider coverage in this country is foreshadowed by the appointment of Hogg, Robinson and Capel-Cure, Limited, as cargo sales agent from May 1. Shippers may apply to the agent's offices throughout Britain for rates on any cargo and secure the specialised services of this well-established business.

P.S.V. MAINTENANCE

(*Continued from page* 11)

Association conference just eleven years ago, in which he reviewed the progress to be expected in passenger vehicle design over the decade that was to come. He made particular reference to leaf springs, saying that he was certain that this type of suspension would have lost much, if not all, of its popularity during the period which he was reviewing. Yet, apart from the progress made by his undertaking in developing rubber suspension, it is only now, eleven years after Mr. Sinclair presented his paper, that the chassis manufacturers appear to have taken any real interest in an alternative form of suspension.

Difficulties to Overcome

As it happens, the vehicle builders seem generally to have accepted compressed air suspension as a suitable alternative, and there seems little doubt that its development over the next few years is almost certain. The advantages of air springing are impressive, but it must be admitted that there are certain difficulties which are associated with this type of suspension. Its weaknesses are in fact the very factors which favour the leaf spring, for, in the first place, the air bellows do not positively locate the axle either laterally or longitudinally, and, secondly, the air bellows do not embody any means of damping unpleasant frequency oscillations.

With air suspension, therefore, it is necessary to employ some form of locating device for keeping the axle in position and this can be accomplished by various methods, including the fitting of radius and Panhard rods between the chassis frame and the axle. In addition, it is necessary, in order to overcome the lack of damping, to fit shock absorbers or dampers to each axle, although, with the absence of any friction within the air bellows, it should be possible to employ shock absorbers which can be designed to damp the suspension more effectively than with the orthodox spring.

Pressure Lines

As has already been indicated, a system of air suspension calls for an air compressor and air receiver being fitted to the vehicle, and, although it may be thought that this additional equipment adds to the cost and complexity of the system, it is well to remember that there are a very great number of public service vehicle operators who have standardised for some years on air pressure braking systems, and many of these operators have already extended the air pressure lines to such things as power operated entrance doors and windscreen wipers, and there seems no reason, therefore, why a further extension should not be made to include the suspension of the vehicle, for the extra volume of air required is negligible. One final thought will probably occur, and that is that if air suspension becomes a standard fitting on public service vehicles, then air pressure braking will possibly follow as standard equipment, and all other types of power brakes might well disappear.

There is little doubt that if an undertaking decides to adopt outside parking as a standard procedure, it must accept a considerable risk of losing revenue and, at the same time, of increasing its expenditure on vehicle maintenance. The solution to the problem of vehicle parking lies, therefore, in the construction of an even less expensive version of the covered garage. Such an arrangement can be provided if the servicing and maintenance buildings used with the open parking site are retained, but if the open site itself is replaced by a parking shed of the cheapest possible construction. Such a shed can be constructed of tubular steelwork clad with asbestos sheeting, and having intermediate pillars supporting the roof to reduce the weight and cost of the roof structure

(*Continued at foot of next column*)

(*Continued from previous column*)

compared with the cost of an uninterrupted span. Only the minimum of lighting has to be employed, for little work need be done in such a building, and provided its construction is draught-proof, heating should not be necessary, although it will be desirable to partition off and heat one small section wherein the periodic soap washing of vehicles takes place.

The cost of such a garage for 100 buses will amount to approximately £690 for each bus, although this figure can be somewhat higher if any wall is within 35 ft. of the boundaries of the property, because such a wall will need to be constructed in accordance with the requirements of the fire resistance conditions laid down by local bye-law. The cost may also be affected if any or all of the asbestos walls are not acceptable to the planning authorities. The annual cost of maintaining such a garage amounts to £80 per vehicle, which is £37 per vehicle less than the cost of maintaining a traditional garage, but £41 more than the open parking site. The parking shed form of construction is, therefore, a very satisfactory compromise between the two extremes so far as cost is concerned, and, furthermore, it has none of the disadvantages of the open parking site, and, from the maintenance engineer's point of view, provides entirely suitable accommodation for vehicles.

Mr. L. H. K. NEIL

Receives Belgian Honour

MR. L. H. K. NEIL, who retired in October last from the post of Continental traffic and shipping manager of the Eastern Region of British Railways, was the guest of honour in Brussels on April 29 at a luncheon which followed the annual general meeting of the Société Belgo-Anglaise des Ferry-Boats. Mr. Neil was a British Transport Commission nominee director of the Belgian company and was its vice-chairman.

Monsieur F. Osterrieth, chairman of the Société Belgo-Anglaise des Ferry-Boats, in a farewell speech, referred to Mr. Neil's 20 years' service on the board of that company and presented him with a framed 17th-century map of Brussels as a souvenir of his long association with the Harwich —Zeebrugge train ferry service. Monsieur Osterrieth was followed by Monsieur G. Claeys, president of the Société Nationale des Chemins de fer Belges, who spoke of Mr. Neil's long and close association with the Belgian railways for over 35 years, from the time when he was first appointed agent in Brussels for the London and North Eastern Railway. He expressed his company's keen appreciation of Mr. Neil's notable contribution to the development of transport relations between Belgium and the United Kingdom and, in recognition of those services, Monsieur Claeys presented Mr. Neil with the Order of an Officer of the Crown which H.M. The King of the Belgians had been pleased to confer upon him.

Other guests at the luncheon were Monsieur G. Willems, of the Ministère des Travaux Publics et de la Reconstruction; Monsieur C. Mariamé, of the Ministère des Communications; Messieurs M. De Vos, L. Lataire and G. Van Cauwenberge, of the Société Nationale des Chemins de fer Belges; Messieurs G. Vanheurck, L. Antoine, L. Verhulst, E. Dutilleul, H. Robyn and R. Weber (Administrator-Délégué), Belgian members of the board of the Société Belgo-Anglaise des Ferry-Boats; Messrs. H. C. Johnson, T. R. Hawkes, S. A. Claydon and W. Brown, of the Eastern Region of British Railways; Mr. C. W. Edwards, British Railways general agent for Belgium and Luxembourg; Mr. H. Elliott, of British Road Services; and Avv. M. Gioncada, of Milan.

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ATTRACTIONS FOR TRAVELLERS

IF it has still to become as much a household phrase as Douglas DC3, the Vickers Viscount has nonetheless gained enormous renown since it entered service in April, 1953, and as an aircraft it is now a common sight on airports throughout the world. Indeed at Geneva last week we saw during less than a hour three apart from the 806 of British European Airways in which we were travelling. Since we had flown in the inaugural Viscount service to Geneva on June 2, 1953, we were particularly glad to be invited by B.E.A. to take part in the formal inaugural flight of the 806 on May 6, when a large party of travel agents together with a few press representatives was not only able to sample the latest corporation version of the Viscount but also, by courtesy of the authorities and organisations concerned, to see something of the Swiss and French holiday attractions around Lac Léman, or as we, with bulldog determination, will have it Lake Geneva.

B.E.A. Viscount 806 "Sir Humphrey Davy" at Geneva after the formal inaugural flight from London on May 6

In the past 11 years B.E.A. has established itself firmly on the London—Geneva route, first with Vickers Vikings and then with Elizabethans (Airspeed de Havilland Ambassadors) and the Viscount 701s. Last year these gave place in turn to the 802s and, from May 1, the 806s took over the regular daylight service and brought with them the availability of first-class as well as tourist-class travel. We are still dubious as to the wisdom of mixed-class configurations—an unpleasant phrase which has unfortunately become widely used—but so far the system has not run riot as it has on transatlantic services, and since there are patently many passengers prepared to pay for the snob value, the airline cannot be blamed for meeting their taste for special treatment.

First-Class Comfort

On the original Viscount flight to Geneva it was decided that we should strive to set up a new record for the flight and that was, in fact, done with a chocks-to-chocks time of 1 hr. 43 min. The aircraft was pushed a little and we had to bolt the last part of a very good lunch. The newer and more powerful Viscounts which cruise at 360 m.p.h. are allowed 1 hr. 55 min. for the outward flight and 2 hr. for the return. Flying out with Captain G. Rayer on G-AOYI (*Sir Humphrey Davy*) our chocks-to-chocks time was five minutes less than schedule and returning on May 8 in G-AOYJ (*Edward Jenner*) with Captain J. B. McEwen—he had brought us back on the previous occasion—we took exactly the two hours despite 60 m.p.h. headwinds and without any undue pressing.

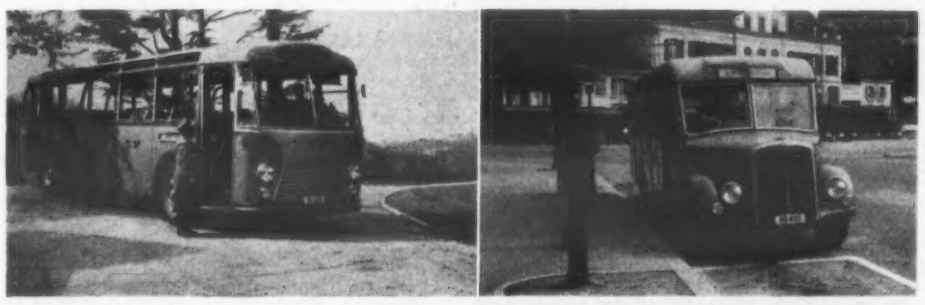
Passengers travelling first-class are placed at the rear of the aircraft and enter and leave the machine by the rear door, while the tourist class passengers use the forward door. The separating of the sheep from the goats is achieved by using different coloured boarding cards so that the ground staff is perfectly clear as to the action to be taken. There are six pairs of seats in the cabin of which four face aft and two forward. One of the attractions is, of course, that more legroom is provided and that the baggage allowance is 30 kg., as compared with 20 kg. for tourist. This must be an advantage where onward bookings from intercontinental services are concerned although there always seem to be travellers within Europe having trouble with excess baggage. Why this should be is not easily fathomable. The meal served to first-class passengers is accompanied by free aperitifs, wines, cigarettes and liqueurs and there is plenty available for those that wish.

First-class service also became available between London and Zurich on May 1, the aircraft again being the 806. This has been provided daily with an additional flight on Wednesdays, Saturdays and Sundays that becomes a daily operation from June 1. As more of this type become available the practice will be extended and the services to Scandinavia are due for treatment in July and those to Paris and Nice in August. The Paris route now has, of course, its first-class Silver Wing flight, but this will be withdrawn and all flights save the two night tourist services will provide both first and tourist accommodation. It should at this stage be stressed that the 806-operated flight to Geneva does not represent the sum total of its activities on the route. There is already a twice-weekly night tourist flight and this is flown nightly from June 1. From the same date there will be an additional daylight all-tourist flight on Saturdays and Sundays in June and thereafter on Mondays as well.

Surface Connections

Airlines operating to Switzerland and particularly B.E.A. and the national airline, Swissair, have long made a feature of the connecting services by which passengers can reach all parts of the country from the airports of Basle, Geneva and Zurich. In each case the airport bus service terminates at the main railway station and the profusion of Swiss railway services makes such transfers a relatively easy matter. Geneva, where the modern airport is being developed still further, is, of course, particularly well suited to act as focus for traffic to and from the numerous holiday resorts in Vaud and up the Rhone Valley. The visit to Switzerland of the party of travel agents was very reasonably taken by those concerned as an opportunity to show something of what could be offered to holidaymakers as well as business visitors. The city of Lausanne with its lakeside resort of Ouchy is a natural centre, while the smaller towns along the north shore cater for those who seek a quieter and less metropolitan holiday. All from one end of the lake to the other have the pleasant adjunct of the lake steamer services—it is hard to think of a more placid means of progress—and these also provide a link with France, which country takes in some two-thirds of the southern shore.

The party spent one evening at Evian-les-Bains which was then busy preparing for its main summer season. The attraction of the tables ensures it an all-the-year-round life to some extent, but undoubtedly the summer is its main period and it would very much like to extend its season at both ends. The time has passed when people looked upon the country as one to be visited mainly for winter sports and in the summer peak but it is doubtful whether the attractions of spring and autumn are yet fully appreciated. For ourselves we could not have asked for better weather than we had even if, as was readily admitted, the temperatures were rather higher than normal so early in May. The efforts of the airlines, the countries themselves and the travel agents are all bent towards spreading the holiday season. It will, admittedly, help them if they can ease the pressure of the peak period—that ominous phrase which haunts transport in all its forms. On last week's showing and those of previous visits the traffic which such efforts develop should be rewarding for much travel is still due to personal recommendation and satisfied clients return with others in tow.



An A.E.C. Regal 4 with 40-seat Eggli body and a Saurer with bodywork by the chassis manufacturer operated by Lausanne Tramways and provided for the tour of the district and the wine-growing areas. In the view on the left, taken at Le Signal, Lausanne may be seen in the background with the lake beyond

★

PAXMAN-ENGINED LOCOMOTIVES

In Scotland and Australia

IN the period between September, 1955, and January, 1956, five Paxman-engined 200-h.p. locomotives entered service in the Scottish Region of British Railways. These engines have now averaged over 8,000 hr. service and the first major inspection is scheduled at 13,000 hr. The New South Wales Government Railways took in service in 1953-54 10 heavy Bo-Bo twin-engined 1,000-b.h.p. diesel-electric locomotives. Reports at the close of 1957 revealed that these engines have accumulated 223,000 hr.

The annual survey of users' records by the Davey, Paxman field research department reveal that rail-traction diesel engines now aggregate over 2,500,000 service-hours. It is estimated that the engines which entered service during 1957 and those due for dispatch in 1958 will increase this aggregate at a rate of well over 1 million service-hours per annum.

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DAMAGED CRANE BEDPLATE. One portion was completely severed; other places were badly cracked

This 5-ton bedplate of a crane reached the Barimar workshops in a sorry condition. One portion of it was completely severed, and other places were badly cracked. This was a repair that *had* to be DEPENDABLE—to stand up to the enormous strain to which cranes are subjected. The second picture shows the complete repair, covered by the Barimar Money-Back Guarantee.

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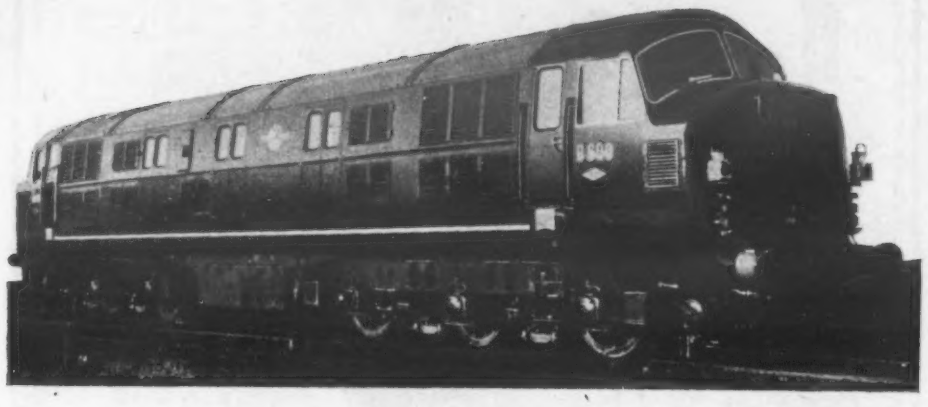
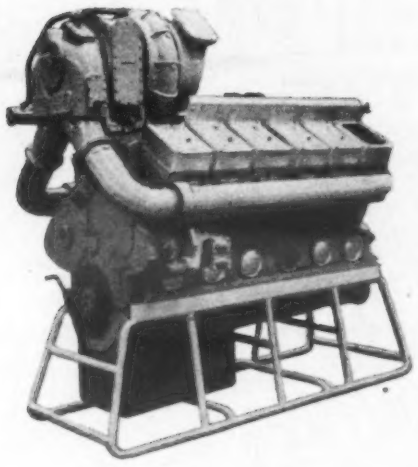
British Railways Main Line Diesel Hydraulic Locomotives



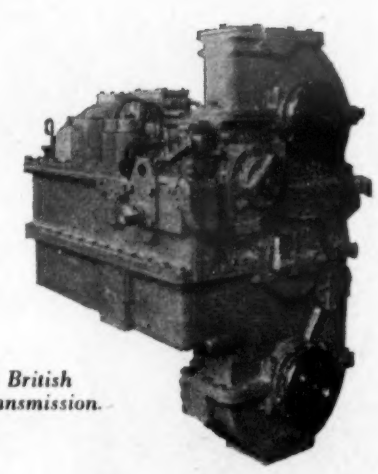
The locomotive shown above is the first of the Class 4 (2,000 B.H.P.) Diesel-Hydraulic locomotives delivered to British Railways under the Modernisation Plan. It was built by North British Locomotive Co. Ltd., at their works in Glasgow, for service in the Western Region.



Two NBL/MAN Diesel Engines provide the power which is transmitted to the wheels through fully automatic VOITH/North British Hydraulic Transmissions.

NBL/MAN 1,100 B.H.P. Diesel Engine. Type L12V 18/21 BS.

This Diesel Hydraulic system, which has been widely used abroad, has many advantages.



VOITH/North British Hydraulic Transmission. Type L306r.

In addition to these 2,000 B.H.P. locomotives, diesels on order from North British include 58 Diesel-Hydraulic type, of 1,000 B.H.P. and 48 Diesel Electric locomotives of 800 and 1,000 B.H.P.

NORTH BRITISH
Locomotive Co. Ltd., Glasgow

Exhibition Traffic in Brussels

(Continued from page 3)

Boulevard Lemonnier ramp is only a temporary structure; it has been designed so that when the tramways are continued into the old Senne tunnel it can be removed in 48 hours.

Construction

The tunnels were constructed by the cut and cover method, and the work was not without a number of difficulties. Utilities had to be maintained with very few interruptions, traffic had to be diverted, temporary tram tracks had to be laid and care had to be taken that existing foundations were not undermined through excess packing of excavated soil. An interesting constructional detail is that the ceiling has been formed with Preflex I-section high-resistance steel girders which have been covered with a layer of reinforced concrete and the usual street surfacing. Between the bases of the beams, which are surrounded with concrete, concrete slabs have been laid; this has left channels between the beams, through which cables, mains, etc., can be passed. It has also given a reduction of 30 cm. (11¾ in.) in the thickness of the ceiling, and consequently shortened the length of access ramps by 5 metres. The subway is well lit throughout by sodium lamps; there is thus no need for any signalling arrangements. As a safety measure, however, there are compulsory stops at the busy intersections, as over 3,500 trams pass through the tunnel every day.

Apart from the Midi tram station and an open-air tram station at the top of the Boulevard Jamar ramp, there is a tram station in the subway itself, and this is located at the bifurcation of the Boulevard Lemonnier and Boulevard du Midi services. It has five entrances connected by subways so that passengers can reach the trams without having to cross streams of traffic. Paving has been laid between the lines in the station, and zebra crossings have been marked out to allow passengers to cross from one platform to another. As well as stairs, two escalators have been installed to facilitate the movement of passengers from the trams to street level. There are four platforms, each of which is 4.2 metres wide and is equipped with seats. The station has been pleasingly finished in white tiling, is brilliantly illuminated with fluorescent lighting and is well signposted. An inspector is on duty in the station, and for his comfort in cold weather a portable heater is provided.

Surface Trams

The new subway has not completely removed trams from the Place de la Constitution. Route 15—a circular operated by the S.T.I.B.—still remains on the surface at this point, and so do the S.N.C.V. lines. It was proposed to cut the latter back to a new terminus (already completed) in the Boulevard Jamar, but so far nothing has come of this. It is considered desirable that the existing terminus, which is nearer the city centre, should continue in use, but with a terminal loop rather than with the present stub. The tunnels are a great asset to the important north-south axis of the tramway network; 4 of the 6.5 km. of track from Schaerbeek to Forest now being on reserved track.

Altogether, throughout the city, 73 km. of S.T.I.B. track have been resited. On the inner ring road there are numerous new tramway reservations. Considerable alterations have also taken place around the Nord Station, which is a terminus for a number of S.T.I.B. and S.N.C.V. services. The exhibition grounds will be well served from this point and the main lines concerned have been placed for the greater part of their length on reserved tracks.

Exhibition

Buses and trams going to one of the four termini at the Exhibition grounds will each carry a coloured plaque—red for "Folklore," blue for "Benelux," yellow for "Centrexpo "(which is in the heart of the Exhibition) and green for "Esplanade." During the fair, 11 of the S.T.I.B. lines terminating in the north-west of the capital will be extended to one of these four main termini to supplement the six S.T.I.B. services normally serving the ground. Each terminus will be served by at least five routes and to cater for the increase in the number of cars extra platformed terminal loops have been constructed.

The "Esplanade" terminus, serving the north side of the grounds, is on the north side of the Avenue de Meise. The platform here has been connected with the exhibition grounds by a footbridge to enable passengers to cross with safety the Brussels-Antwerp motorway, which runs down the middle of the Avenue.

The S.N.C.V. trams serving the exhibition start from the Place Rogier, outside the Nord Station. The stub terminal here has been removed and replaced by a terminal loop, which also traverses side streets and the old bed of the Senne. Immediately after leaving the Place Rogier the S.N.C.V. cars enter the Boulevard d'Anvers, down the centre of which a T-shaped road viaduct, nearly a mile long, has been constructed for fast through traffic. The tram tracks have been laid beneath the eaves of the viaduct—the S.N.C.V. trams run on one side of the central supporting pillars, the S.T.I.B. trams run on the other side, leaving the surface roads on either side free for local "turning" traffic.

S.N.C.V. Tunnel at Gros Tilleul

The S.N.C.V.'s Wemmel route passes the "Folklore" entrance; its Humbeek and Londerzeel routes pass the "Benelux" entrance. From "Benelux" the latter are carried under the exhibition grounds in a special tunnel constructed by the Exhibition authorities and also under the Avenue de Meise in continuations of this tunnel constructed by the Ministry of Public Works.

This tunnel, which was constructed by the cut and cover method, carries two tracks and is 520 metres long, 7 metres wide and 5.35 metres high (4.8 metres between rails and trolley wires). There is one underground station, with two platforms, each 45 metres long and 2 metres wide, and this is situated just outside the exhibition grounds, under the Avenue de Meise, at the junction of the Humbeek and Londerzeel routes. Access to each platform is gained by two stairways. The access ramp on the Londerzeel branch is 140 metres long; that on the Humbeek branch is 370 metres long. The maximum gradient is 1 in 17. The access ramp to the Humbeek branch runs alongside the S.T.I.B. "Esplanade" line in a cutting which carries the tracks of both undertakings under the flyovers leading to the Brussels and Antwerp Motorway. In the cutting there is an open air tram station which is used by both lines.

Traffic

It is expected that over 30 million visitors will attend the exhibition—that is at least 200,000 each day. If the summer is a fine one the total may well be 50 million. The bulk of these visitors will be carried by the tramways, and to cope with this large influx intensive services will be operated. More than 1,000 trams and buses will connect with the Exhibition grounds, at a frequency of less than 10 seconds, giving a capacity of 45,000 passengers per hour in each direction.

Special bus services will connect those car parks which are some distance from the exhibition grounds with the main entrances.

All exhibition traffic will be controlled from a central point set up by the Ministry of Communications, and this will be connected by closed-circuit television, wireless and telephone to road patrols, traffic police, gendarmes and tramway inspectors posted at strategic points on all the main roads leading to the grounds. As they will be running on private rights of way, many of the trams will, however, be little affected by any congestion that might be caused by the dense traffic that is expected. With some 155 modern high-speed high-capacity resilient-wheeled trams in service for S.T.I.B., and many modern cars on the S.N.C.V. system, both tramway undertakings are confident that they will be able to cope efficiently with the crowds.

The telephone number of Girling, Limited, Birmingham, has been changed to Acocks Green 3371.

An additional factory—the fifth—has been acquired in the Slough Trading Estate by Wolf Electric Tools, Limited. The new 15,350 sq. ft. premises are to be used for promoting planned technical developments.

Extensions being carried out by British Oxygen Gases, Limited, at its Corby factory include a new equipment sales store, a medical gas filling shop and stores, an oxygen filling dock, a cylinder test shop and a garage for 17 vehicles.

John Summers and Sons, Limited, has developed a process to reduce if not entirely eliminate the formation of white rust on galvanised steel sheets. The new process is already being included as part of the manufacturing technique of Galvatite, a galvanised steel sheet product, developed by Summers. White rust appears on the galvanised sheets when they are subjected to unsuitable conditions, especially when rain and changes in temperature cause moisture on the sheets. The chemicals in the small globules of moisture react, destroying the all-important uniform zinc protective coating on the steel. The new coating process prevents the initial reaction taking place.

OFFICIAL NOTICES

JOHANNESBURG MUNICIPAL TRAMWAYS

SALE OF REDUNDANT TRAMCARS

INQUIRIES are invited in respect of 114 prewar tramcars which will become redundant as a result of plans to convert all tram routes to bus and trolleybus operation. The tramcars will become available between December, 1958, and August, 1959. All trams are in running order. Brief particulars are as follows:

	All metal construction	*Wooden bodies*
Number	49	65
Year of manufacture	1935	1920-1930
Gauge	4 ft. 8½ in.	4 ft. 8½ in.
Type	Double-deck completely enclosed	
H.P. of motors	35	35
Voltage of motors	550 d.c.	550 d.c.
No. of motors per car	4	4
Collector gear	Trolley pole and slipper	
Passenger Capacity:		
Seated	78	80
Standing	20	20

Further information is available, upon request, from the undersigned:

E. F. Gait,
General Manager of Transport,
Transport House,
Goch Street,
Newtown,
Johannesburg.
South Africa.

April 22, 1958.
MWJ.

NATIONAL COAL BOARD

DISPOSAL OF 20 RAIL TANK WAGONS

THREE 14-ton cylindrical main-line Rail Tank Wagons; built by Charles Roberts and Co., Limited, 1951; fitted with steam coils, all-welded barrels and starred for fast traffic; 10-ft. wheelbase. Seventeen 10-, 12-, 14- and 20-ton cylindrical main-line Rail Tank Wagons; built by Charles Roberts and Co., Limited, Midland Carriage and Wagon Co., Limited, and Hurst Nelson and Co., Limited, between years 1910 and 1921; fitted with steam coils; fitted with oil axleboxes; starred for fast traffic; wheelbase range from 9 ft. 6 in. to 12 ft. All vehicles G.R. plated in accordance with Railway Clearing House regulations and maintained under contract.

Inspection can be arranged at Dalton Main or Crigglestone or Old Silkstone Collieries, and offers should reach the Divisional Purchasing and Stores Controller, National Coal Board, North Eastern Division, Ellers Road, Bessacarr, Doncaster, telephone No. 55261, by Wednesday, May 28, 1958.

A post to fill?
ADVERTISE IT IN
MODERN TRANSPORT

SOCIAL AND PERSONAL

Retirement of Mr. F. A. Pope

MR. F. A. Pope, C.I.E., M.Inst.T., retired on April 30 from his part-time membership of the British Transport Commission. Mr. Pope began his railway career with the L.N.W.R. in 1910 and was made a vice-president of the L.M.S.R. in 1946 before he left the undertaking to become chairman of the Ulster Transport Authority in 1948. He was made a full-time member of the B.T.C. in 1951, but relinquished this in 1955 in favour of part-time duties.

* * *

Mr. J. G. Smith, M.I.C.E., M.I.Mun.E., has been appointed a deputy Chief Engineer (Civil Engineering) on the highways engineering staff of the Ministry of Transport and Civil Aviation.

* * *

Sir Peter G. Roberts, Bt., M.A., M.P., and Messrs. P. J. C. Bovill, B.Sc., J.P., A. M. Holbein, C.B.E., M.I.C.E., and K. E. Walker have been appointed to the board of Ransomes and Rapier, Limited.

* * *

The Public Transport Association has re-elected vice-chairman for the ensuing year Mr. Robert E. Chisnell, joint managing director of R. Chisnell and Sons, Limited, Winchester. Mr. Chisnell was educated at Peter Symonds School, Winchester, and on leaving school in 1923 spent three years in engineering training with Leyland Motors, Limited. He then joined his father (the late Mr. R. Chisnell) and his brother, Mr. F. C. Chisnell, in the family road passenger transport business. Mr. R. E. Chisnell has been connected with the P.T.A. since the association merger in 1943. He is a member of its finance committee and has served on a number of other committees.

Mr. R. E. Chisnell

* * *

Mr. R. S. Beacham has been appointed sales director of Dunlop South Africa, Limited.

* * *

Mr. F. O. Ackroyd, A.M.I.Mech.E., A.M.I.Prod.E., has joined the board of Crofts (Engineers), Limited.

* * *

Mr. F. A. Dadge has been appointed regional accountant (designate), North Eastern Region, British Railways.

* * *

The Transportation Club holds its next club dinner on Thursday, May 29, at 7 for 7.30 p.m. The guest of honour will be Sir Alexander H. Maxwell.

* * *

We record with regret the death of Mr. A. B. Porter, M.Inst.C.E., M.I.Mech.E., engineer-in-chief of the Mersey Docks and Harbour Board. He died on the eve of his 59th birthday. Mr. Porter had risen by progressive steps from apprentice draughtsman to engineer-in-chief.

* * *

Mr. L. F. Martyn, B.Sc. (Eng), A.M.I.Mech.E., experimental engineer of Simms Motor Units, Limited, has been appointed chief research engineer to the whole of the Simms Group. He will be responsible for the co-ordination of all group research and long term development work.

* * *

On Wednesday this week at the first meeting of the new national council of the Road Haulage Association Mr. R. N. Ingram (Birmingham) was elected chairman for the ensuing year. The following three vice-chairmen were re-elected: Messrs. H. H. Crow, D. O. Good and J. B. Mitchell and Mr. N. T. O'Reilly (Carlisle) was elected a vice-president.

* * *

Sixteen members of the British Transport Vehicle Manufacturers Association held their annual meeting at Fodens, Limited, at Sandbach. Representatives from the Atkinson, Scammell, Daimler, Albion, Seddon, Thornycroft, Guy, Leyland, Foden and Maudslay works were present. The meeting was presided over by Lieut.-Cdr. J. W. Thornycroft, chairman of Britavema.

* * *

The annual safety first dinner of Express Dairy London drivers was held on May 7 at Winchmore Hill. Safe driving medals and bars were presented by Mr. W. A. Nell, chairman of the company, to 120 London drivers. The total number of medals and certificates gained by the company in 1957 was 1,201. The total mileage covered by the fleet during the year was 14,407,000 miles, the accident rate being one per 66,398 miles.

* * *

We regret to record the death of Mr. S. B. Morrish, secretary of the Atlantic Steam Navigation Co., Limited, since 1946, and of Frank Bustard and Sons, Limited, since 1934. Mr. Morrish, who was 49, joined the White Star line, in its passenger traffic and conference department, in 1929. In 1934, when the merger of the White Star and Cunard Lines took place, he joined Lieut.-Colonel Frank Bustard—at that time passenger traffic manager, White Star Line—in founding Frank Bustard, Limited, travel agents. Two years later, the Atlantic Steam Navigation Co., Limited, was founded—with the idea of promoting low-cost transatlantic travel. During the war, when these two companies suspended their operations, Mr. Morrish temporarily joined the Ministry of War Transport.

* * *

We regret to record the death of Mr. Rowland Taylor, aged 85. He had helped his father and his brother to operate a horse bus service in the Gower Peninsula in the nineties and then, in 1910, began a motor bus service between Rhossili and Swansea at the same time as Mr. G. E. Taylor began a similar operation from Llangennith to Swansea. In 1912 the two were merged as the Gower Vanguard Motor Company and in 1922 the Taylors bought the Swan business of Mr. T. Roach. This was formed into the Swan Motor Co. (Swansea), Limited, in 1925 and 10 years later acquired control of Swansea Bus Services, Limited. Gower Vanguard had passed to Red and White Services, Limited, and became one of the constituents of United Welsh Services, Limited, on January 1, 1939. In 1950 that company, by then B.T.C. controlled, took over the Swan and Swansea Bus Services undertakings of which Mr. Taylor had been managing director.

Mr. K. T. Smalley, hitherto assistant engineer of Southdown Motor Services, Limited, has been appointed chief engineer, Reed Transport, Limited. The appointment takes effect from July 1.

* * *

Mr. K. H. Preston has resigned from the managing directorship of J. Stone, Limited, and has been appointed executive chairman. Mr. B. W. Preston and Mr. A. J. S. Brown have been appointed joint managing directors.

* * *

Mr. R. C. Hesketh-Jones, formerly sales director (industrial division) of British Oxygen Gases, Limited, has been appointed chief executive (overseas) at the head office of the British Oxygen Co., Limited.

* * *

Mr. A. R. White has been appointed public relations officer to the British Road Federation in succession to Mr. Bernard B. Sykes who has left to take up another appointment. Mr. White was assistant publicity manager of the Taylor Woodrow Group for the past five years.

* * *

Mr. A. F. R. Carling, M.A., M.Inst.T., who has been re-elected a vice-chairman of the Public Transport Association, has been a member of the executive staff of the British Electric Traction Co., Limited, since 1954. He was educated at Aldenham School and and Peterhouse, Cambridge, and joined the traffic department of Southdown Motor Services, Limited, in 1931, successively filling the positions of assistant traffic manager, area manager at Portsmouth (1939-43), assistant to the managing director, and general manager. He is at present chairman of London Coastal Coaches, Limited, and managing director of Ribble Motor Services, Limited, and East Yorkshire Motor Services, Limited. Among other directorships held are those of B.E.T. Omnibus Services, Limited, the African Transport Co., Limited, and Rhodesia United Transport, Limited. Mr. Carling is a member of the National Council for the Omnibus Industry and also of the council of the Institute of Transport.

Mr. A. F. R. Carling

* * *

We regret to record the death of Mr. W. T. Venton, who was western divisional commercial manager, Southern Railway, at the time of his retirement in 1930. Aged 82, Mr. Venton commenced his railway career with the L.S.W.R. in 1892.

* * *

Mr. R. W. Coatesworth has been appointed assistant estate and rating surveyor, North Eastern Region, B.R. He commenced his railway service in 1936 with the former L.N.E.R. in the estate department at York. In 1954 he became district surveyor, York—Middlesbrough, with headquarters at York, district estate surveyor, Leeds, in 1956 and leaves this post to take up his new appointment.

* * *

Captain R. E. Sherwood, who has been appointed marine superintendent, London, Midland, Scottish, and Western Regions of British Railways, began his railway service at Holyhead in 1935 as second officer on the Irish services. From 1939 to 1946 he served with the Royal Navy in command of various ships, units and shore stations and was awarded the D.S.O. for work on escort duty in the North Atlantic. After the war Captain Sherwood rejoined the L.M.S.R. Holyhead fleet and served in all its ships, rising to master. In 1954 he was appointed assistant manager (acting), Irish Shipping Services, from which position he has now been appointed marine superintendent.

* * *

Mr. Joseph Mackle, A.M.Inst.T., A.M.I.Prod.E., who was elected vice-president of the Scottish Road Passenger Transport Association at its annual general meeting last month, has been general manager, Belfast Corporation Transport Department, since 1951. He served an apprenticeship with Halley's Industrial Motors, Limited, at Yoker, Glasgow, served in the Army Service Corps and in other units throughout the 1914-18 war and, after demobilisation, entered a Belfast firm of motor engineers. In 1926 he was appointed chief engineer, H. M. S. Catherwood, Limited, bus operators, Belfast, and in 1929 became road motor superintendent, G.N.R.(I.). In 1933 Mr. Mackle transferred to Belfast Corporation Transport as superintendent of the coachbuilding and motor omnibus department; in 1939 he became rolling stock engineer. Although volunteering for service in the 1939-45 war, the transport committee felt unable to release him, and he became acting deputy general manager and engineer in 1940. He reverted in August, 1945, to rolling stock engineer, but thereafter deputised also for the deputy general manager during absence through war wounds.

Mr. J. Mackle

* * *

Mr. T. R. Chapelhow, district operating superintendent, Rugby, has been appointed in the same capacity in the newly formed Manchester (North) operating district of the London Midland Region, British Railways.

* * *

In the presence of the Lord Mayor of Liverpool Mr. David Blee, general manager, London Midland Region, on Monday opened Castle Street, Liverpool, the first of the six new L.M.R. divisional traffic manager's offices which have been set up within the regional traffic reorganisation scheme.

* * *

The publishers of Sir John Elliot's book dealing with the French Revolution, *The Way of the Tumbrils*, hit upon a pleasant and appropriate way of launching it by holding a cocktail party at Victoria Station on board the Golden Arrow Pullman train. Besides being chairman of London Transport, Sir John is a well-known student of French history and a recognised authority on the Napoleonic era.

RELIABLE
and
REGULAR

Photo by courtesy of British Railways, Southern Region

ON BRITAIN'S
FAMOUS BOAT TRAIN

"GOLDEN ARROW"

The Pullman Coaches of this train are fitted with

WESTINGHOUSE

Q.S.A. Valves

the valves that are interchangeable
with the standard release valves

• • • •

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Associated in South Africa with—Westinghouse Brake & Signal Co. S.A. (Pty.) Ltd., Johannesburg
Agents—Bellamy & Lambie, Johannesburg

OFFICIAL NOTICE ANNOUNCEMENTS

Official Notices, Tenders, and other announcements, can be accepted up to first post Tuesday morning for insertion in the current week's issue.

Rate: 45s. per single column inch.

OFFICIAL NOTICES
MODERN TRANSPORT, 3-16 WOBURN PLACE, LONDON, W.C.1

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IMPORTANT CONTRACTS

Hawker Siddeley Maybach Licence

LATEST example of the diversification policy operating within the companies of the Hawker Siddeley Group is announced by Armstrong Siddeley Motors, which, facing a cut back in Government orders for aero engines, has signed a licence agreement to make in Britain German Maybach diesel engines. The Western Region of British Railways is introducing these engines in its locomotive replacement programme and it is obvious that Armstrong Siddeley is now seriously tilting at this extensive business. The Maybach engines will be manufactured by the British company's diesel division at Brockworth, near Gloucester, and will make an important addition to the company's present range of small industrial and agricultural diesel engines, which was introduced shortly after the last war. The Maybach MD-series engines are high-speed four-stroke units in four- to 16-cylinder sizes covering a power range from 220 to 3,000 h.p. The present agreement follows an announcement last week of a Hawker Siddeley-Beyer, Peacock link-up to build and market diesel-hydraulic and diesel-mechanical locomotives.

Leigh Orders Loline

Leigh Corporation, Lancashire, has ordered from Dennis Bros., Limited, two Dennis Loline bus chassis, the bodies for which are to be built by East Lancashire Coachbuilders, Limited.

Electric Furnaces for B.R.

British Railways, London Midland Region, has placed an order with Birlec, Limited, Birmingham, for two electric arc melting furnaces. The new furnaces will be installed in the British Railways foundry at Crewe and will produce 21 tons of high-quality steel per day.

Nigerian Railway Extension Contract

Consequent upon the loan from the International Bank for Reconstruction and Development, the first contract for the construction of the Bornu extension has been awarded by the Nigerian Railway Corporation to Stirling Astaldi (Africa), Limited. This contract covers construction from Kuru to Bauchi and work is expected to start by September, 1958, for completion in the early part of 1961.

Switchgear for Atomic Power Station

A contract has been awarded by the Central Electricity Generating Board to the English Electric Co., Limited, to supply a 15-circuit duplicate busbar switching station for Hinkley Point atomic power station, Somerset. The order, worth some £980,000, covers the generator, feeder, station transformer and bus coupler circuits, as well as 147,500 MVA air-blast circuit breakers with associated control and relay panels.

Car Transport by Air

The Channel Air Bridge division of Air Charter, Limited, has secured a permanent contract from H. C. L. Sieburg N.V., the Dutch distributor of Rover, Limited, to fly upwards of 300 Rover cars and Land-Rovers annually from Southend to Rotterdam. The vehicles will be driven to Southend Airport and take 65 min. on the flight to Rotterdam Airport, where they will be handed over to the Dutch company.

Canadian Successes for John Laing

John Laing and Son, Limited, has announced that its Canadian company, John Laing and Son (Canada), Limited, has won a $3¼ million contract from the B.C. Electric Company to build the foundations of a new thermal power station at Burrard Inlet, near Vancouver. The company has also secured a $2¼ million contract for work in connection with the new high-level bridge over Burrard Inlet, to link Vancouver with the municipalities of North and West Vancouver.

Crossing the London—Yorkshire Motorway

Dorman, Long (Bridge and Engineering), Limited, has obtained orders from the British Transport Commission for the supply and erection of three steel bridges to carry the railway over the new London—Yorkshire Motorway. The bridges, located in Luton, near Northampton, and near Rugby, will each carry a double-track railway, the individual lengths being 170 ft., 99 ft. and 166 ft. All will require to be completed during the summer of 1959.

B.O.A.C. Comet 4 Seats Ordered

British Overseas Airways Corporation has placed a contract with Microcell, Limited, to supply all the passenger seats for its 19 Comet 4 air liners. Among several basic layouts under consideration are versions for all-de luxe sleeperseats for 40 passengers; for 56 first-class passengers; for 71 tourist passengers; and for 16 first-class and 43 tourist passengers. An economy-class layout would have 81 seats. A new Microcell tourist seat designed for the Comet has tip-up seats and armrests, making them suitable also for use at the 5-in. shorter pitch used for the economy class.

Tyne Turboprop for CC106

A Montreal report says that the Canadian Government is to order 48 Rolls-Royce Tyne turboprop engines, worth over £2 million, to power (with spares) the eight CC106 four-engined transports being built for the Royal Canadian Air Force by Canadair, Limited. The CC106 is basically a Bristol Britannia aircraft, modified by Canadair to Canadian requirements; it was initially scheduled to have the Bristol Orion turboprop, but development of this engine was stopped by the Bristol company after withdrawal of British Government support. First flight of the CC106 is scheduled for late 1959 and if successful, it might well be developed as a commercial air liner.

Perkins Diesel Manufacture in Spain

Perkins diesel engines are to be manufactured under licence in Spain by Perkins Hispania S.A., a newly-formed company, at a modern four-bay factory at Carretera de Aragon on the outskirts of Madrid. The manufacturing contract has been approved, subject to certain provisions, by the Ministry of Industry, Madrid. Production is expected to start in the immediate future. The Perkins P6 diesel engine will be manufactured first, but it is planned eventually to produce other engines in the Perkins range, including the R6. The Perkins distributor in Spain since 1947, Samle S.A., Pasco del Prado, Madrid, will co-operate with Perkins Hispania by organising the servicing of Spanish-built Perkins engines in its well-equipped workshops. About 11,500 Perkins diesel engines are operating in Spain, mainly in transport vehicles, and they have established a local reputation for reliability and economy.

SHIPPING and SHIPBUILDING

Through Irish Rates Unlikely

GIVING evidence before the tribunal which is sitting in Dublin to inquire into Irish cross-channel freight rates, Mr. J. Atkinson, assistant traffic manager, Great Northern Railway Board, was asked how soon it would be before a throughrates between Britain and Ireland embracing rail transport, sea freight and road conveyance, could be devised. Mr. Atkinson said it would be "many years." He added that with the growth of air transport, rail and shipping companies had no longer a monopoly. Competition from road hauliers had never been greater than it was at present.

Mr. F. Fitzgibbon, Q.C., opening the case for the British and Irish Steam Packet Co., Limited, said that while the tribunal's investigations were exhaustive, none had so far produced evidence that the present rates were excessive. The fact that cross-channel rates between England and Ireland were relatively higher than in other sea services was no indication or proof that they were in themselves excessive. Over the past 10 years the margin of profit on cargo ships averaged on 2.9 per cent. It was only because of passenger traffic that they were able to carry cargo at all. At least 99 per cent of traffic was at exceptional rates, it was stated.

Mr. J. J. O'Dwyer, commercial superintendent, Coras Iompair Eireann, told the tribunal that, with regard to the working of the Irish and British Traffic Conference, of which C.I.E. was a member, if an increase in freight rates should be agreed upon by the conference then C.I.E. would participate. When an exceptional rate was requested by an Irish industry to enable it to meet overseas competition, and that concession was granted, the difference between the concessionary rate and the ordinary through rate was met by spreading it all over the other participating companies.

"Alcantara" Goes to Japanese Breakers

FOR the first time since before the 1939-45 war, Japanese shipbreakers have purchased a British ship for scrap. It is the Royal Mail passenger liner *Alcantara* (22,607 gross tons). They are to take delivery at Southampton next month. The *Alcantara* left Southampton on April 17 for Buenos Aires on her last commercial voyage.

Dry Dock at Karachi

WITH the completion of the dry dock at Karachi, the Pakistan Industrial Corporation has passed another milestone in its task of progressive industrialisation of Pakistan, the President, Major-General Iskander Mizra, said while performing the opening ceremony. Shipbuilding in most Eastern countries was a nascent industry, said the President, and a new one in Pakistan. It was, therefore, wise on the part of the Government to embark on a modest scheme at the outset and it sanctioned the first part of the scheme which aimed only at ship repair work and the construction of small ships. The second portion, which included the construction of ships of higher tonnage, was deferred until the Industrial Development Corporation had completed the first phase and acquired sufficient experience of the industry.

TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

May 23—Costa Rica.—Pacific Railroad for 50 metric tons of open-hearth high-carbon (min. 0.3 per cent) RAIL SPIKES, packed in 200-lb. wooden kegs and guaranteed fully sharpened. Tenders to La Proveeduria del Ferrocarril Electrico al Pacifico, San José. (ESB/11869/58.)

May 26—Union of South Africa.—Johannesburg Municipality for one six-wheeled 150-b.h.p. diesel TIPPING LORRY of 22,000-lb. capacity and one four-wheeled TIPPING TRAILER of 20,000-lb. capacity. Tenders to the Town Clerk, City of Johannesburg, Room No. 108, 1st. Floor, Municipal Offices, Johannesburg. (ESB/12096/58.)

May 27—Formosa.—Central Trust of China for nine heavy-duty petrol-engined LORRY CHASSIS for 19,000 to 21,000 lb. gross weight. Tenders to the Central Trust of China, Purchasing Department, 68 Yen Ping Nan Lu, Taipei, Taiwan. (ESB/12154/58.)

May 30—Union of South Africa.—Cape Provincial Administration for one 6,000-lb. capacity metal-platform LORRY, one 6,000-lb. capacity metal-panelled VAN and one 1,000-lb. capacity PICK-UP TRUCK, all petrol engined. Tenders to the Central Transport Section, P.O. Box 659, Cape Town. (ESB/11717/58.)

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Beck and Pollitzer

Dividend of Beck and Pollitzer, Limited, for 1957 is 12 per cent (9 per cent on smaller capital). Group net profit £143,736 (£148,456).

A.P.V.

Dividend on ordinary is again to be passed by the A.P.V. Co., Limited. Group net profit £99,226 (£101,328) after £23,000 (nil) unrequired tax.

De Havilland (Holdings)

A dividend of 7½ per cent (same) is being paid by de Havilland (Holdings), Limited, for year ended September 30, 1957. Net surplus was £619,611 (£1,659,238).

Skefko Ball Bearing

The Skefko Ball Bearing Co., Limited, reports net profit for 1957 at £596,885 (£442,971), final dividend 9 per cent (7½ per cent) on capital increased to £4,500,000, plus interim 2½ per cent (same).

B.E.T. Omnibus Services

A final ordinary dividend of 7½ per cent tax free, making 11 per cent tax free (same), for year ended March 31, 1958, is being distributed by B.E.T. Omnibus Services, Limited. Net profit, after taxation £357,082 (£370,094), is £451,647 (£456,927).

Mackay Industrial Equipment

The Associated British Engineering, Limited, announces that it has now arranged to complete the acquisition of the whole of the share capital of Mackay Industrial Equipment, Limited, Feltham, Middlesex, and of a 60 per cent interest in the equity of its associated Company in Kenya—Blake Mackay Engineering Co. (Africa), Limited.

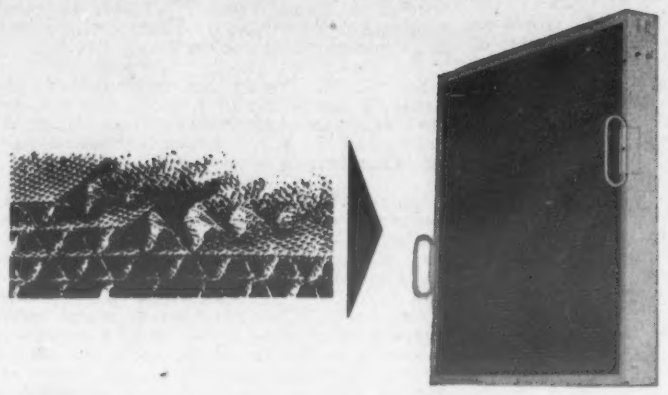
Nuclear Power Company

The English Electric Co., Limited, Babcock and Wilcox, Limited, and Taylor Woodrow Construction, Limited, announce the formation of a new company, The English Electric, Babcock and Wilcox and Taylor Woodrow Atomic Power Construction Co., Limited. It has been formed to administer the contract for the nuclear power station at Hinkley Point in Somerset, the construction of which was started last autumn.

Dunlop Rubber

The Dunlop Rubber Co., Limited, had a group trading balance for the year 1957 of £19,859,864 (£15,094,662) to which are added exceptional credits £387,101 (£409,520). Group available net profit is £5,025,605 (£3,535,216). Depreciation charged is £6,489,734 (£6,195,396) plus replacement cost of fixed assets £260,000 (£280,000). Debenture and loan interest £1,013,554 (£1,004,679). U.K. and foreign taxation £7,458,072 (£4,488,891). Net profit after tax is £3,016,600 (£1,943,591). Dividend on the ordinary stock is 14 per cent for the year (10 per cent).

Far-Air air filter



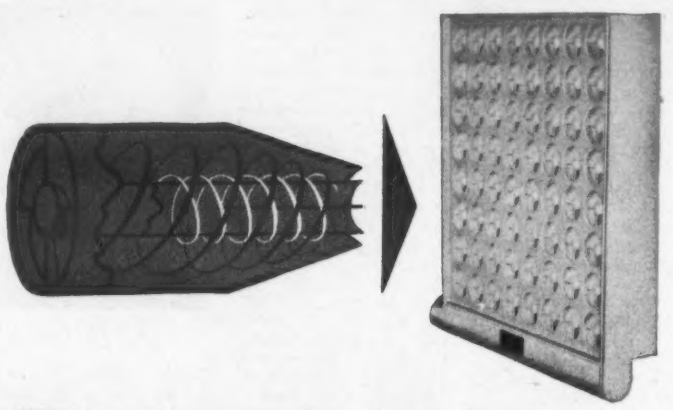
Maximum efficiency and minimum pressure loss are important characteristics of the FAR-AIR filter. Easily accessible and washable elements are used.

Their design is such that **a Far-Air element 20″ x 20″ x 2″ will hold 25 oz. of solids of 2.54 sp.g. without loss of efficiency**

INTERMIT LTD. has set up a nation-wide filter cleansing service to provide low-cost maintenance.

An automatic 3-stage washer of FAR-AIR design is available for large installations, where the cost of a special machine is justified.

2 revolutionary new **filtration principles**



With extremely high efficiency on particles in the range below 5 microns, the ROTONAMIC multiple-tube cyclonic air cleaner is close to 100% efficient in the removal of larger particles.

There are no moving parts, and the ROTONAMIC therefore needs no maintenance. Solids separated from the air are simply collected from a bin.

Rotonamic

multiple-tube cyclonic air cleaner

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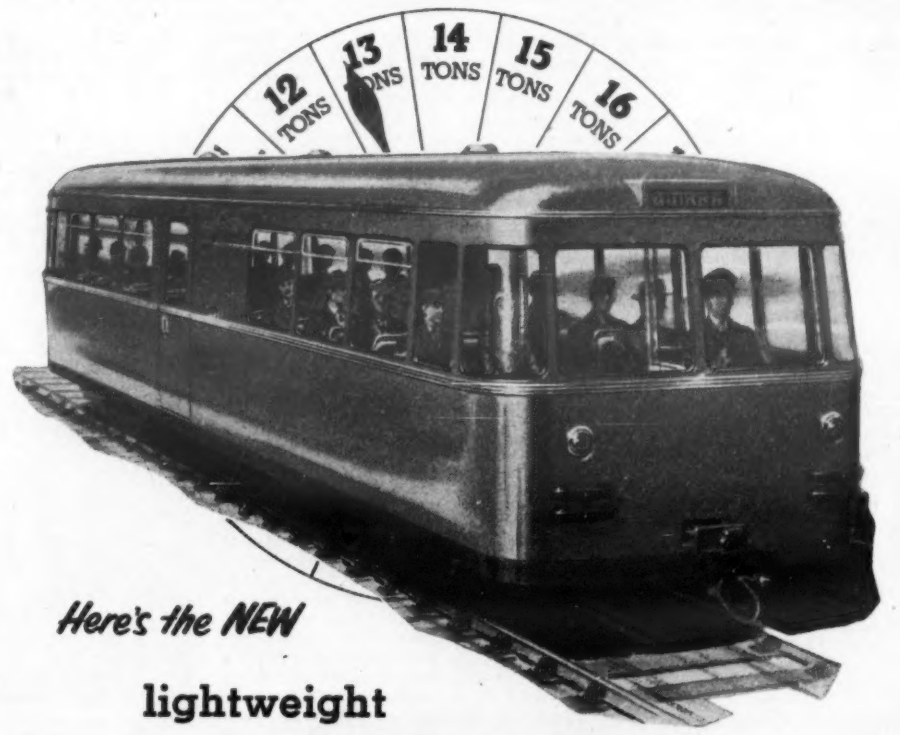

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